



Nature Notes

Call the Nature Line (314) 935-8432 for meeting times & bird sightings

Journal of the Webster Groves Nature Study Society, October 2006, Vol. 78, No.8

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YOU MAY WANT TO DIG THIS

Mark your calendar and plan to attend the **WGNSS General Meeting on Thursday, October 5** at 7 PM at the St. Louis County Library Headquarters in Frontenac, 1640 S. Lindbergh (just south of Hwy 40/I-64 on the east side of Lindbergh), starting at **7 PM**. Dr. Cricket Kelly, a zooarchaeologist researching the Cahokia site will talk about "A Bird's Eye View of the Cahokia Mounds Historic Site". For a synopsis of the talk and information about the speaker, turn to **Page 4**.

IN MEMORIAM – RON GOELLNER - Editor

It is with deep regret that I must belatedly report the death of WGNSS member Ron Goellner. The deep sympathy of WGNSS is extended to his wife, Karen, who has graciously provided a biographical sketch by Bill Houston, Bill's friend and assistant. WGNSS members will remember Ron as the speaker at the WGNSS 80th Anniversary Banquet in 2000 and his more recent talk at a general meeting on the endangered Hellbender salamander.

Ron passed away on February 26, 2006. His career at the St. Louis Zoo spanned 35 years, starting as a reptile keeper in 1970. Within a few years he was promoted to Curator of Reptiles, a position he held until 1995. For the past ten years Ron served as Director of Animal Collections at the Zoo, where he oversaw a collection of 11,400 animals, from Asian elephants to American burying beetles.

Growing up in South St. Louis, he collected frogs and snakes in Tower Grove park. Purchase of a pet snake from an Affton Aquarium bird and reptile shop owned by Charlie Hoessle lead to a friendship which resulted in his employment at the Zoo when Hoessle became Director.

Ron attended Rockhurst College in Kansas City, graduating in 1967 with a degree in biology. In 1968 he married Karen Steinmetz. Drafted the same year, he served in the Army Medical Research Lab at Fort Knox, where he cared for its venomous reptile collection.

Ron and Karen traveled widely, including the cloud forests of Costa Rica. In 1980 Ron traveled to remote Stephen's Island in New Zealand to collect data for use in building an enclosure for the Zoo's tuatara group, in its collection since 1973. He was national coordinator for the Species Survival Plan for the endangered Partula snail.

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In recent years Ron founded the St. Louis Zoo's Center for Hellbender Conservation. As a tribute to Ron's distinguished career and his commitment to conservation, the St. Louis Zoo has formally dedicated the Ron Goellner Center for Hellbender Conservation to ensure continuation of his life's work with this endangered amphibian. Friends should consider a donation to the Center.

PRESIDENT'S CORNER – Ann Earley

Those attending our first program meeting of the season on September 7 were treated to a fine program by 2005 Menke Scholarship recipient Brian Allan. Brian discussed the implications of his research work with mosquitoes and ticks, and the diseases they carry, for efforts to maintain biodiversity and protect wilderness areas. Brian's program stimulated many questions from audience members, who were very appreciative of his presentation. We look forward to seeing everyone at our next program meeting on October 5!

At our September Board meeting, Shawn Clubb was elected to fill the remaining vacant Member-at-Large position on the Board. Shawn is a Collinsville, Illinois native and has been employed by several Illinois newspapers as a reporter or editor during the past ten years. Shawn is currently the Southwest City Editor for the Suburban Journals of Greater St. Louis. He has been a birder for seven years and is interested in snakes, insects, and plants. Shawn will be working on generating publicity for WGNSS and its activities. We are very pleased to have Shawn on the WGNSS Board.

Also at the September Board meeting, a financial contribution to Tower Grove Park was approved to promote re-planting of trees, to replace those lost in the July storms. WGNSS' action in this regard continues the long history of support and assistance WGNSS and its members have provided to the park and its various projects over the years. Tower Grove Park sustained a great deal of damage from the storms, and recovery efforts will take some time to complete.

Did you know that WGNSS has a "wish list?" WGNSS Board members have determined that it would be beneficial for the Society to obtain a projector for PowerPoint slides to be used at our general program meetings. Many of our program speakers now use PowerPoint slides in their presentations to our group. Having a projector for Society use would allow us to better accommodate our speakers, and to continue to provide informative, high-quality presentations to our members. If you would be interested in making a contribution to help us purchase a projector, please let me know.

The fall season brings a busy schedule of activities, detailed elsewhere in this newsletter, for our Botany, Entomology, and Ornithology groups. As in years past, WGNSS will also be participating with an information display table at this year's Whitney and Anna Harris Conservation Forum, to be held at 5:30 p.m. on Tuesday, October 24 at the St. Louis Zoo's Living World. The topic for this year's Forum is "Biofuels and Ecological Sustainability in the 21st Century: Is Going Yellow, Green?" We hope you will be able to join us at a WGNSS activity or event this fall!

HISTORIAN'S CORNER – Dr. Eugene P. Meiners (1893-1960)

Dr. Meiners, a practicing physician, is a member of the illustrious group of amateur naturalists who built WGNSS. He was active in WNSS from the beginning of its recorded history. He ran the insect collecting contests promoted by entomologist Alfred Satterthwait for the youth of WGSS. He served WGNSS in many administrative positions. He was chair of its Microscopy section in 1930-31 and was a member of the Lodge unit that built the Nature Study Lodge on the Ranken Estate. He served as president in 1933-34. He provided many scholarly articles about entomology to *Nature Notes*. His name first appeared in *Nature Notes* in January 1930 in connection with the (Cont'd on next page)

HISTORIAN'S CORNER (Cont'd)

Lodge unit that built the Nature Study Lodge on the Ranken estate. He provided many scholarly articles about entomology to Nature Notes. His name first appears in Nature Notes in connection with the 1930 St. Louis Butterfly and insect show. The article was followed by another article in August 1930 and five articles in 1931. He remained active in WGNSS until his death on Oct. 28, 1960. The information which follows was taken from Nature Notes and from a comprehensive autobiographical (undated) sketch donated by Phil Koenig of the WGNSS Entomology Group. The full text of this lengthy sketch is in the WGNSS archives and includes a 1949 picture of Dr. Meiners.

Eugene Meiners was born in Troy, Madison County Illinois on Feb. 11, 1893, the oldest of five children. His paternal grandfather emigrated from the Province of Hanover in Germany, his maternal grandfather from France. His grade school education was obtained in Illinois and his high school education in St. Louis. Upon graduation at age 17 he obtained employment at Mallinckrodt Chemical Works and worked there for two years. He then decided upon medicine as a career and entered the medical school of the University of Arts and Sciences in St. Louis, graduating in 1916,

He served as an intern at St. Luke's Hospital and the following year as an assistant to Dr. W. R. North in Webster Groves. During WW I he served in the U.S. Public Health Service during the influenza pandemic of 1918. He opened a St. Louis office in general medicine in 1919 on Delmar Blvd where he remained for 20 years. In 1939 he moved to an office on Enright Avenue. He married Lillian McGimsey (?) in 1919 and at the time the autobiography was written the Meiners had two sons and a daughter.

His interest in natural history began early in life. Between age 8 and 14 he conducted a natural history museum in Troy. Later he decided to specialize in entomology, specializing in butterflies and moths. During his lifetime he built a very large collection. Upon
(Cont'd on next page)

MORE Sage Sayings

An early auroral observation:

As I looked, a stormy wind came out of the North and a great cloud with brightness round about it, and fire flashing forth continuously and in the midst of the fire, as it were gleaming bronze like the appearance of the bow that is in the cloud on the day of rain, so was the appearance of brightness round about.

The Book of Ezekiel, c. 593 B.C.

The scientist does not study nature because it is useful to do so. He studies it because he takes pleasure in it because it is beautiful. If nature were not beautiful it would not be worth knowing and life would not be worth living. - Henry Poincaré (1854-1912)

WHAT'S AHEAD

October Program Meeting - Oct. 5
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“A Bird’s Eye View of Ritual at the Cahokia Mounds Historic Site”
October 5th General Meeting
Jane C. Walker

Join us for our general meeting on October 5, 7:00 p.m. at the main branch to of the St. Louis County Library and meet Dr. Cricket Kelly, a zooarcheologist researching the Cahokia site. For many of us a visit to the Cahokia Mounds archeological site is an imaginary visit back in time when the Cahokians or “mound people” inhabited our part of the Mississippi River Valley. Large earthen mounds built on both sides of the river are visible evidence of a large pre-Columbian civilization that arose and fell before Europeans stepped on American shores. Today some of the best examples of these mounds are across the Mississippi River in Cahokia. Ongoing archeological excavations and research continue to yield clues to how the people in this ancient culture lived.

In her talk Dr. Kelly will discuss the ritual implication of various taxa of animals, particularly birds that have been recovered from the Cahokia site. First she will give us introduce us to the study of zooarcheology; then how she identifies animal bones at archeological sites and the types of information they can provide about past cultures. Setting the scene for her talk, she will give a brief overview of the Cahokia site, the largest pre-Columbian site in North America outside Mexico. The remainder of the presentation will focus on two areas of the Cahokia site where large quantities of animal remains have been recovered. One area has been interpreted as containing the remains of great communal feasts that took place early in the site’s history (AD 1050). The second area is later in time (AD 1200) and was an area where intensive ritual activity appears to have taken place. A large number of birds have been identified from this area, including many archaeologically rare taxa such as eagles, hawks, owls, and shore birds. It is hypothesized that they were used in rituals and may reflect a change in the symbolism and perhaps ideology of the Cahokia people.

A graduate of Beloit College in Wisconsin, Dr. Kelly completed her graduate studies in Anthropology much later at Washington University (M.A.-1995 and PhD.-2000). Her specialty is in Zooarcheology and has been practicing zooarcheology since the early 1970’s. Her dissertation focused on whether the Cahokia chiefdom was provisioned with deer from outlying communities and the social implications of how Cahokia inhabitants may have procured deer meat. She has also been involved in several archeological mitigation projects in the area including the FAI-270 Highway Mitigation Project, for which I studied animal remains from sites excavated prior to the building of I-255. Most of her work has been in the Midwest, particularly at the Cahokia Mound State Historic Site where she continues to do faunal research.

Dr. Kelly is married to an archeologist, John Kelly whose research is also focused on the Cahokia site and surrounding region. She teaches part time at Washington University and UMSL and her husband is a senior lecturer in the Department of Anthropology at Washington University. They have three children and two grandchildren. They both enjoy the outdoors, especially canoeing in northern Wisconsin and Minnesota.

WISDOM FROM THE SAGES

Your reason and your passion are the rudder and sails of your seafaring soul. If either your sails or rudder be broken, you can but toss and drift, or else be held at a standstill in midseas. Kalil Gibran (1883-1931)

Dr. Eugene P. Meiners (Cont'd)

his death the collection was willed to the University of Missouri Entomology Dept.

Dr. Meiners was also active in many other organizations. He was an Insect Life Merit Badge Counselor for the Boy Scouts of America and active in the Missouri Academy of Science, the Greater St. Louis Museum of Natural History, The Entomological Society of America, The Naturalists' Club, etc. etc., holding many key jobs in these groups.

Dr. Meiners is remembered for his remarkable ability to attract and stimulate young scientists: Ralph Swain, William Gordon and Dick Frechner were cited as examples. Today's Entomology Group owes much to the legacy of this remarkable ancestor.

JUNE BIRD REPORT – Jim Ziebol and Yvonne Homeyer

Sightings: Yellow-crowned Night Heron sightings included an immature in FP on 6/8 (Steve Ewer) and 1 on Collinsville Road on 6/26 (M Richardson). Frank Holmes reported that the 9 Yellow-crowned Night Heron pairs in Wilson Park fledged a total of 36 young, a very good year. On 6/23, Frank Holmes counted 240 Little Blue Herons in the HL area. Two King Rails, 2 Least Bitterns and a Sedge Wren were present at BK Leach on 6/25 (AD) and on 6/30, Abby found 2 juvenile Black-crowned Night Herons, a Yellow-crowned Night Heron and 2 Sandhill Cranes there. A White-faced Ibis seen on 6/3 on Bend Road/HL was a good find (KL). About 100 Pelicans were present at HL on 6/5 (YH, SM). During June, Greater White-fronted Geese were seen at HL (FH) and at REDA (JU). Two Gadwalls were seen at HL in early June (park staff) and an injured Redhead and Blue-winged Teal also spent the summer there. Mississippi Kite sightings included 7 soaring over Anne McCormack's Kirkwood home on 6/2 and 1 on a gravel bar in CSP on 6/4 (JW). Mike Brady reported Mississippi Kite, Broad-winged Hawk, and Chuck-will's-widow nesting on the Chubb Trail. On 6/4, one of the Great Horned Owl chicks in TGP was found dead (believed to have been killed by a off-leash dog). On 6/23, the two Western Kingbirds at 2nd and Barton were seen by Jack Cowan and Julie Randle. An American Pipit videotaped at HL on 6/1 was a very late migrant (JZ). On 6/20 in FP, Sherry McCowan saw a Red-breasted Nuthatch and possible heard another. Several Grasshopper Sparrows and a Blue Grosbeak were seen at BK Leach on 6/18 (M Thelen). Three Prairie Warblers found by the Thursday Group at Robertsville State Park were the best birds on 6/15 (J Cook). On 6/30, 2 Henslow's Sparrows, a Prairie Warbler, a Yellow-throated Vireo and a Blue Grosbeak were found at Robertsville (SM, JZ). Also on 6/30 at the Katy Access, Sherry located a probable breeding pair of Lark Sparrows. The male Painted Bunting at Katy Access was observed by Steve Ewer, Pete Wise, Ryan Davis and Jeff Wright on 6/18. On 6/29, the Painted Bunting was a life bird for Paul Brockland. The Thursday Group also found a Blue Grosbeak there (J Chain).

A typical day on 6/3 at LVT included 3 Wood Thrush, 3 N. Parula, 1 Blue-winged Warbler, 1 Yellow-throated Warbler, 1 Cerulean Warbler, 2 Worm-eating Warblers, 2 Kentucky Warblers, 2 Louisiana Waterthrush, and a Chat (M Thelen).

Backyard Birds: In early June, Cheryl and Don Delashmit saw a Whip-poor-will with two young near their home in Franklin County. Mike Thelen had a Cooper's Hawk from 6/1 to 6/4 and a Mississippi Kite on 6/30 at his University City home.

Contributors: Mike Brady, Jackie Chain, Jean Cook, Jack Cowan, Abby Darrah, Frank Holmes, Yvonne Homeyer, Kent Lannert, Jim & Charlene Malone, Sherry McCowan, Mick Richardson, Margy Terpstra, Mike Thelen, Jane Walker, and Jim Ziebol. An asterisk means "documented". Please submit sightings by the last day of the month to Jim Ziebol (314-781-7372) or Yvonne Homeyer (homeyer@earthlink.net).

JULY BIRD REPORT - Jim Ziebol and Yvonne Homeyer

Introduction: The bird of the month was a female Ruff, or Reeve. It was found by Jim Ziebol on 7/18 at HL and re-found on 7/19 by Frank Holmes (m. ob.).

Sightings: Pied-billed Grebes fared well at HL during this year's breeding season, with 98 counted there on 7/9 (FH). Other high counts at HL included 9 Green Herons on 7/2, 1800 Great Egrets on 7/23, and 210 Snowy Egrets on 7/14 (FH). On 7/30, Yellow-crowned Night Heron, Black-crowned Night Heron and several Green Herons were found in FP (M Thelen). Blue-winged Teal and a Pintail were seen in July at HL (FH). A King Rail with 8 young and a Marsh Wren were reported at BK Leach on 7/10 (AD). A Common Moorhen with 5 young were seen on the 111 side of HL on 7/8 (IH). A Ruddy Turnstone and an Upland Sandpiper were very good birds at Winfield Dam on 7/27 (SS). Eric Schuette reported Marbled Godwit at BK Leach on 7/30. A Willet was present at REDA on 7/4 (JU). The first migrating Upland Sandpipers were 2 seen at the Keeteman Sod Farms on 7/15 (TB, DR). The first returning migrant Buff-breasted Sandpiper was found at HL on 7/29 (DK) and on 7/30, Frank Holmes, Jackie Chain, Rose Ann Bodman and Steve Ewer observed a Buff-breasted there. On 7/9, 2 Lesser Yellowlegs, 2 Solitary Sandpipers, Short-billed Dowitchers, 4 Pectorals, and 50 Least Sandpipers were found at Eagle Park (FH, JZ). On 7/7, 300 Killdeer, 12 Solitary Sandpipers, and 100 Least Sandpipers were seen at Sandy Slough (CM). On 7/14, Torrey Berger reported 1 Greater and 2 Lesser Yellowlegs, 4 Short-billed Dowitchers, 6 Least and 100 Pectoral Sandpipers on the 111 side of HL. Tern sightings included 4 Black Terns at HL on 7/11 (T Berger, FH), a Caspian Tern at HL on 7/15 (FH), and 4 Forsters', 2 Common, and 20 Black Terns at Winfield Dam on 7/27 (SS). Yvonne Homeyer and Jim Ziebol had very good looks at 2 Broad-winged Hawks on Hwy. 32 near Hawn State Park on 7/12. Mississippi Kite sightings at BK Leach included 4 on 7/7 (T Berger) and 2 on 7/30 (SM, JZ). Twelve Whip-poor-wills (a very high number), 3 Chuck-will's-widows and a Nighthawk were present at Greenfelder Park on 7/2 (MB). Connie Alwood was the lone observer of a White-winged Dove at BK Leach on 7/30. Ian Hunt was the lone observer of an adult Scissor-tailed Flycatcher in Fenton on 7/28. Western Kingbirds were found at Earth City on 7/1 (DB). On 7/17, Jackie Chain and the Thursday Group found the Western Kingbirds with young at their Soulard location (2nd and Barton) and found the immature Yellow-crowned Night Heron in FP. On 7/1, Pine Warbler, Black-and-white Warbler and Summer Tanagers were good birds at Hawn State Park (YH, JZ). That same day, they also found a Louisiana Waterthrush and a Scarlet Tanager at Magnolia Hollow C.A. In late July, both Charlene Malone and Mike Thelen saw and possibly heard a second male Painted Bunting at Weldon Spring Katy Access. June Allen and the Thursday Group saw the Painted Bunting and 2 Lark Sparrows there on 7/2. After hearing a possible Western Meadowlark several times at BK Leach, Abby Darrah positively

identified one there on 7/23. Eurasian Tree Sparrows are usually not found in the Soulard area; however, Tom Kennedy found one there in late July.

Backyard Birds: An immature Barred Owl mistakenly confused a green garden hose at Margy Terpstra's home for a snake. "The owl became interested in the green garden hose. He hopped over to it and began pecking at it and lifting it. We decided that he must have thought he's found quite a snake! After a couple of minutes, the "snake" fell to the ground, and the owl flew up to a higher branch watching the pond again. He stayed about 30 minutes and then flew into Great Horned Owl territory."

On 6/7, a mink was observed carrying dead fish left behind by fishermen across the road near the old dredge area at HL (JZ).

Contributors: Connie Alwood, David Becher, Torrey Berger, Rose Ann Bodman, Tom Bormann, Mike Brady, Jackie Chain, Jean Cook, Jack Cowan, Abby Darrah, Steve Ewer, Frank Holmes, Yvonne Homeyer, Ian Hunt, Kent Lannert, Jim & Charlene Malone, Sherry McCowan, Mick Richardson, David Rogles, Eric Schuette, Scott Schuette, Mike Thelen, Josh Uffman, and Jim Ziebol. An asterisk means "documented". Please submit sightings by the last day of the month to Jim Ziebol (314-781-7372) or Yvonne Homeyer (homeyer@earthlink.net).

Abbreviations: Busch Conservation/Wildlife Area, BCA; Carlyle Lake, CL; Clarence Cannon, CC; Forest Park, FP; Horseshoe Lake, HL; Little Creve Coeur Lake, LCCL, Lost Valley Trail, LVT; Marais Temps Clair, MTC; Riverlands, REDA; Shaw Nature Reserve, SNR; Tower Grove Park, TGP.

BOTANISTS EXPLORE ALGIFIC SLOPES – 2006 SUMMER TRIP

- George R. Van Brunt

Each year Father Sullivan takes a week-long vacation during which he visits an area of botanical interest. WGNSS members are invited to accompany him for all or part of his vacation. This year, Father Sullivan's vacation trip took him to the driftless area of east central Iowa and northwestern Illinois. The driftless area is an area of southeastern Minnesota, northeastern Iowa, southwestern Wisconsin and northwestern Illinois which was not covered by glaciers during the last two glaciations, the Illinoian and Wisconsin. The area previously has been glaciated but not since the Kansan, 400,000 years ago.

On Monday June 26, Father Sullivan, Nels Holmberg, Wayne and Nancy Clark, and George and Layne Van Brunt explored some of northwestern Illinois. First we visited roadsides in Jo Daviess County where we found *Anemone canadensis* (meadow anemone), *Mirabilis nyctaginea* (wild four-o'clock), and *Tilia americana* (basswood) in bloom. Later, we went to Ayers Sand Prairie Natural Area in Carroll County. There we found *Lithospermum caroliniense* (hairy puccoon), *Amorpha canescens* (leadplant), *Euphorbia corollata* (flowering spurge), *Callirhoe triangulata* (poppy mallow), *Apocynum cannabinum* (Indian hemp), and *Rhus typhina* (staghorn sumac), all in bloom.

One feature of the driftless area is the presence of algific slopes. Indeed, one reason Father Sullivan chose the driftless area was to see algific slopes. Algific means cold-producing. During winter, water seeps into passageways in these north-facing limestone bluffs and freezes. During the summer, air cooled by ice in the passageways in the limestone issues from fissures in the sides of the slope. Some algific slopes are weak, issuing cool air for only part of the summer, while others are strong, issuing very cold air all summer. Species which normally would only be found farther north may be found growing on these cool slopes. On Tuesday June 27, Father Sullivan, Nels Holmberg, Wayne and Nancy Clark, George and Layne Van Brunt, Rex and Martha Hill, John and Anne Russell, and Dick and Suzy Russell visited two such slopes. The first was part of the Driftless Area National Wildlife Refuge. Our guide was Cathy Henry, a Refuge Operations Specialist with the U.S. Fish & Wildlife Service. She took us to a moderate algific slope in part of the Refuge in Clayton County, Iowa, where the soil temperature was 55°F. There we saw *Aconitum noveboracense* (northern monk's hood) in bloom. This member of the buttercup family is on the Federal Endangered Species List and is found in small populations only in New York, Ohio, Wisconsin, and Iowa. We also saw *Campanula rotundifolia* (bellflower) growing on the same algific slope. Nels Holmberg, while looking for mosses and liverworts, found two *Discus macclintocki* (Iowa Pleistocene snail) a Federally listed endangered species. This snail was known only from fossils until 1955 when a scientist discovered it on an algific slope in Iowa. The second algific slope we visited was in Bixby State Monument, near Edgewood in Clayton County, Iowa. This was a strong algific slope, with 40°F air issuing from a small cave. On this slope, we found *Mitella diphylla* (bishop's miter), *Allium tricoccum* (wild leek), *Aralia nudicaulis* (wild sarsaparilla), *Caulophyllum thalictroides* (blue cohosh), and *Actaea rubra* var. *rubra* (red baneberry). Growing around the entrance to the small cave we found *Sullivantia sullivantii* (sullivantia), and *Chrysosplenium alternifolium* var. *sibiricum* (Iowa golden saxifrage). Golden saxifrages are found in shady, ferny places in our eastern mountains, but the species we found by the icy cave entrance has relatives only in the very cold arctic. For more information on algific slopes, see Natural History Magazine, October 2005, pages 58 and 59, *This Land: Where Glaciers Did Not Tread* by Robert H. Mohlenbrock.

On Wednesday June 28th, we visited a closed Army Depot near the Mississippi River in Illinois. At the entrance, there was an old sign that said no admittance, now with a hiking sticker on it. We hiked in and found a large area planted in native prairie species. It was great fun to see the diversity of species, but a plant that was not in bloom caught our attention. It was *Hypericum ascyron* ssp. *pyramidatum* (giant St. John's wort). We would love to see that plant in bloom. In his *Flora of Missouri* Volume II, George Yatskievych tells us that it does occur in a scattered way in northern Missouri.

On Thursday the 29th, we visited Apple River Canyon State Park in Illinois. Nels found a yew clinging to the river bluff. We were amazed at how natural it looked, but then we discovered there was a good reason for that; it was a native species, *Taxus canadensis*. On a later walk here, we saw *Jeffersonia diphylla* (twin leaf) leaves and *Allium burdickii* flowers (small wild leek).

ON THE LIGHTER SIDE

- If you think things improve over the years, attend a class reunion.
- Never go to a doctor whose office plants are dead

JUNE-JULY BOTANY REPORT – George R. Van Brunt

June 5, 2006 Botany Field Trip

Thirteen lucky botanists met on a mild, sunny morning at Onondaga Cave State Park. We walked the Blue Heron Trail, a trail that Father Sullivan calls "the most species-rich botanical trail in Missouri". And rich it was; not only did we see many species, but many unusual species. We identified *Matelea decipiens* (climbing milkweed), in bloom. We also saw the flowers of *Clematis pitcheri* (leatherflower), *Smilax lasioneuron* (carrion flower), *Calyocarpum lyonii* (cupseed), and *Euonymus atropurpureus* (wahoo).

June 12, 2006 Botany Field Trip

Eleven botanists met with Father Sullivan at Matson Hill County Park in St. Charles County. We were back to see the blooms of *Allium burdickii* (Burdick's leek). We have been watching these county record plants ever since Nancy Clark discovered them last December 26th. At that time, we saw the dried fruits. This year, on successive visits, we have seen the young spring leaves, the mature leaves, and now, the flowers. We also saw *Circaea lutetiana* (enchanter's nightshade) and *Panax quinquefolius* (ginseng) in bloom. After our visit to the Burdick's leeks, we walked a part of the Katy Trail near Matson Hill. There we saw many blooming plants including a very large *Conium maculatum* (poison hemlock), an invasive introduced plant that was the official state poison of ancient Athens. Socrates was executed by being made to drink a concoction which included the plant.

June 19, 2006 Botany Field Trip

Thirteen botanists met with Father Sullivan at Quail Ridge Park in St. Charles County. We walked a floodplain trail next to Peruque Creek where we found vegetative growth of *Maclura pomifera* (Osage orange) and *Aristolochia tomentosa* (Dutchman's pipevine). We found *Cryptotaenia canadensis* (honestwort), *Oenothera laciniata* (ragged evening primrose), *Silene stellata* (starry campion), and *Phryma leptostachya* (lopseed) in bloom.

June 26, 2006 Botany Field Trip

While Father Sullivan and some other WGNSS members were in Iowa, Jack Harris led a group of botanists to the fen area of St. Francois State Park, St. Francois County, MO. A fen is a lowland area partly or completely covered with water. A fen may be formed by springwater seeping from the ground as it is in St. Francois State Park. Some of the many plants found by the botanists included *Calopogon tuberosa* (grass pink orchid), *Tradescantia subaspera* (broad-leaved spiderwort), *Apios americana* (groundnut), *Melanthium virginicum* (bunch-flower), *Stylosanthes biflora* (pencil-flower), and *Liparis liliifolia* (twayblade orchid).

July 3, 2006 Botany Field Trip

Bruce and Ann Schuette hosted 14 WGNSS botanists on this warm morning at Cuiivre River State Park. We botanized a trail along the east side of Lake Lincoln. This area has been deliberately burned about 8 times over the last 16 years, resulting in an open woodland. The highlight of the walk was *Stenanthium gramineum* (eastern featherbell) in full bloom. Bruce told us that this plant is rare in the park and blooms irregularly, appearing only some years. Another species rarely seen by the WGNSS botanists was *Astragalus canadensis* (Canada milk vetch). Other species of note included *Veronicastrum virginicum* (Culver's root), *Anemone virginiana* (thimbleweed), *Pycnanthemum pilosum* (hairy mountain mint), *Lobelia spicata* (spiked lobelia), and *Dalea purpurea* (purple prairie clover).

July 10, 2006 Botany Field Trip

WGNSS member Jerry Brown invited the WGNSS botanists to visit his property in rural Lincoln County. Jerry, a retired English professor and member of the Missouri Native Plant society, has been gradually converting his 20 acre pastureland to native prairie. First, during the summer, he kills the vegetation in an area with Roundup. Then, during the next winter, he sows native plant seeds and plants plugs of native grasses. In 6 to 8 years, the area develops into a mature prairie; Jerry uses periodic burning to maintain his prairieland. He has a pond and some forest land as well. The ten botanists were like kids in a candy store, especially on the prairie. Blooming native prairie plants included *Liatris pycnostachya* (prairie blazing-star), *Eryngium yuccifolium* (rattlesnake master), *Sabatia angularis* (rose gentian), *Baptisia alba* (white wild indigo), *Silphium laciniatum* (compass plant), *Heliopsis helianthoides* (heliopsis), *Monarda fistulosa* (wild bergamot), *Eupatorium fistulosum* (hollow Joe-pye-weed), *Eupatorium purpureum* (green-stemmed Joe-pye-weed), *Ratibida pinnata* (gray-headed coneflower), *Dalea purpurea* (purple prairie clover), *Pyrrhopappus carolinianus* (false pale dandelion), *Silene regia* (royal catch-fly), *Asclepias tuberosa* (butterfly-weed), and *Verbena hastata* (blue vervain). Blooming pond vegetation included *Pontederia cordata* (pickerelweed). Other blooming species included *Monarda punctata* (spotted beebalm), *Apocynum cannabinum* (dogbane), *Phlox paniculata* (perennial phlox), and *Scutellaria incana* (downy skullcap). And those were only some of the species in bloom! Many thanks to Jerry for inviting us.

July 17, 2006 Botany Field Trip

Eight heat wave botanists met at the Missouri Botanical Garden where even the Climatron offered a respite from the oppressive heat, though not from the humidity. The primary focus of the day was to visit areas of the garden containing the special exhibit "Glass in the Garden: CHIHULY". This included exploring the rose garden and adjacent areas. The botanists noted *Nelumbo lutea* (American lotus), *Pontederia cordata* (pickerel weed), *Scaevola aemula* (fan flower), and a giant *Verbascum thapsus* (mullein) growing under the ideal conditions of cultivation. In the climatron the botanists observed *Hibiscus schizopetalus* (Japanese lantern), *Cubanola dominguensis* (Cubanola), and *Anthurium wendlingeri* (anthurium). The last 45 minutes were spent admiring the exhibit of the local Cactus Society.

July 24, 2006 Botany Field Trip

Eight botanists made the trip to St. Joe State Park in St. Francois County. We started walking the paved Harris Branch Trail and soon took a side trail to Harris Branch. Harris Branch is a spring-fed creek, which was evidenced by the abundance of two species of fen plants, springwater-loving plants, along its edges: *Lysimachia quadriflora* (narrow-leaved loosestrife), and *Pycnanthemum virginianum* (Virginia mountain mint). The bed was mostly dry and walkable; the springwater was flowing under the gravel. We explored upstream and downstream and finally left the creekbed and crossed a field to rejoin the Harris Branch Trail. Along the banks of the creek we saw some species that we do not see very often. Among these were *Asclepias verticillata* (horsetail milkweed), *Hedyotis nigricans* (slender-leaved bluets), and *Coreopsis pubescens* (star tickseed). We also noted *Senna marilandica* (Maryland senna), *Scutellaria incana* (downy skullcap), *Arnoglossum atriplicifolium* (Indian plantain) and *Lythrum alatum* (winged loosestrife), a native loosestrife, in bloom. The Harris Branch Trail and field yielded *Manfreda virginica* (American agave), *Teucrium canadense* (American germander), and the introduced invasive species *Centaurea stoebe* ssp. *micranthos* (spotted knapweed). Some readers may know the latter plant as *Centaurea maculosa*. This name was misapplied to the

introduced species found in North America. Morphological and chromosomal studies have shown that this species is the same as the one that originated in southeastern Europe, and is not *Centaurea maculosa* which is native to central Europe and currently is not found in North America.

July 31, 2006 Botany Field Trip

On this very hot, last day in July, the botanists met at Powder Valley Nature Center. Father Sullivan left with Rex Hill, Bruce Schuette, and Nevin Aspinwall? to drive to the Dexter, Missouri area to look for the blooming *Platanthera ciliaris* (yellow fringed orchid). They found not only this orchid, but also *Platanthera clavellata* (wood orchid). The remaining 12 botanists did a little botanizing along the Powder Valley Trails; four walked the long loop of the Hickory Ridge Trail, while the rest walked the short loop of the Tanglevine Trail. After the walk, we reassembled in the cool indoors to view slides. Dave Weber presented a show of slides he took in Colorado. Wayne and Nancy Clark showed photographs taken on the June 26-29 trip to the Davenport, Iowa area. Ed Kullmann showed a sequence of photographs of a passion flower opening. He photographed the flower every 30 seconds for the 8 to 10 minutes it took the flower to open. Jack Harris showed slides from his trip to the Peck Ranch, while Pat Harris showed a prairie program she prepared.

WANTED BY WGNSS

Did you know WGNSS has a "Wish List"? WGNSS Board member members believe it would be beneficial for the Society to obtain a projector for PowerPoint slides for use at our meetings. Many of our speakers use PowerPoint slides in their presentations. Having a projector for Society use would allow us to better accommodate our speakers and allow them to provide informative, high-quality presentations for our members. If you would like to make a contribution to help us purchase such a projector, please contact one of the Society officers.

BOOK REVIEWS – Jim Ziebol.

My summer reading introduced me to four books on diverse nature issues that are informative and well-written. Perhaps you will enjoy them, too.

The Rock from Mars: a Detective Story on Two Planets by Kathy Sawyer (2006). When NASA announced in 1996 that a meteorite fragment from Mars, found in 1984 in Antarctica, contained fossils of ancient bacteria, a major controversy erupted among scientists. Sawyer's book focuses on the dispute between NASA and other scientists as to whether life has ever existed on Mars.

For Love of Insects by Thomas Eisner (2003). Eisner has been studying insects in the field as well as in the laboratory for over 50 years. Eisner pioneered the field of chemical ecology, based upon his research that most insects defend themselves not by physical attack but by the use of chemicals. Eisner also explains that he and other scientists are now conducting some studies of insects without capturing or killing them. His photographs are exceptional.

(Cont'd on next page)

Unearthing the Dragons: the Great Feathered Dinosaur Discovery by Mark Norell. About 110 million years ago, non-avian dinosaurs covered with protofeathers lived in northeastern China. As paleontologist Mark Norell describes this major discovery, he reshapes our understanding of the origin of dinosaurs from the popular concept of giant lizards to the more scientifically correct concept of warm-blooded feathered animals. The book also touches upon the revelation that the infamous *Archaeoraptor Chimera* was a hoax.

Under Ground: How Creatures of Mud and Dirt Shape Our World by Yvonne Baskin. Two-thirds of the earth's biological diversity lives in its soils and underwater sediments, and thriving underground communities keep the planet's surface green and habitable. Baskin explains how our own survival is dependent upon these unseen and under-appreciated life forms. For example, clear-cutting of forests in western Canada damaged underground creatures so badly that nothing was able to grow above ground until new soil containing flora, fauna and fungi was brought in. Threats to underground life forms include air pollution, trawl fishing, timber cutting, destruction of wetlands, and more.

OUR SYMPATHY

The sympathy of WGNSS is extended to Dan and Margy Terpstra on the death of Dan's sister, Carolyn Terpstra, on Sept. 10. A memorial service will be held at a later date.

MORE ABOUT MOUNTAIN LIONS - Editor

Last month's issue of *Nature Notes* (Sept. 2006, p. 5) reported that the WGNSS Board by a 6 to 3 vote approved a request by the Missouri Coalition of the Environment that the Missouri Dept. of Conservation (MDC) rescind its recent action in removing the mountain lion from Missouri's endangered species list. This action was communicated to MDC and MDC has responded. The key paragraph in its response dated June 12, 2006, is reproduced below:

In addition to reclassification, the Commission action stated "it is not desirable to encourage reestablishment of a mountain lion population in Missouri." Because of their dispersal patterns, mountain lions may occasionally reach Missouri; most will likely be males, but an occasional female may occur. The Code will continue to protect any that appear here—as long as they do not cause trouble—but our Department will not undertake any action or program to encourage their return. Some may disagree with this position, but Missouri is now home to 5.7 million people, with roads, cities, towns, and pasturelands replacing the habitats that once supported large animals such as bison, elk, wolves, and mountain lions. No amount of wishful thinking will bring back the days when people and mountain lions had the space to coexist in Missouri without conflict. Our challenge is to balance human needs with the natural world, and, in the case of the mountain lion, we believe common sense tips the balance toward caution.

The writer cast one of the three dissenting votes. As a former and long term user of the Mark Twain National Forest for hiking, camping, and backpacking, it was felt that any action fostering re-development of a mountain lion population in Missouri is highly undesirable because of the heavy use of Missouri's forested areas for recreational

purposes and that any governmental action resulting in a burgeoning lion population would pose an intolerable threat to humans. Several fatal attacks on hikers have occurred in California during the past decade. The writer experienced consternation in the late seventies/early eighties when a lion was sighted crossing Marble Creek in Madison County on property co-owned by the writer. A feature article in the *Smithsonian* (Cougars on the Move, Sept. 2006, p. 72-78) cites 11 fatal cougar attacks in the U. A. and Canada since 1990 and states that "mountain lions are thought to be multiplying in the West and heading east."

CONSERVATION FORUM

The 2006 Whitney and Anna Harris Conservation Forum will be held at the Living World at the St. Louis Zoo on October 24, 5:30-9:00 PM. WGNSS will have an information display table as in the past. The program is reproduced below. If you would like to attend the event, please register using the reservation form that can be accessed from: <http://www.umsl.edu/%7Ebiology/docs/Registration%20Form.doc>

Biofuels and Ecological Sustainability in the 21st Century: Is Going Yellow, Green?

Registration and view exhibits	5:30-6:00 p.m.	The
Living World, Saint Louis Zoo		
Session 1	6:00-6:50 p.m.	Anheuser
Busch Auditorium		
Dinner, view exhibits	6:50-7:30 p.m.	Atrium,
The Living World, Saint Louis Zoo		
Session 2 and Panel Discussion	7:30-8:30 p.m.	Anheuser
Busch Auditorium		

Session 1

Dr. Alex Farrell, Assistant Professor, Energy and Resources Group and Director, Joint Center for Transportation Sustainability Research at the University of California-Berkeley

"Vehicle Fuels for the 21st Century"

Dr. Jim McLaren, President, StrathKirn Inc., St. Louis

"Natural Ethanol: Powering Your Car with Harvested Sunlight"

Session 2

Dr. Bruce Dale, Professor, Department of Chemical Engineering and Materials Science at Michigan State University

"Bioethanol: Thinking Clearly about Energy and Sustainability Issues"

Dr. David Pimentel, Professor of Entomology at Cornell University

"Ethanol: The Energy, Economic, and Ecological Limits of Production"

“LEWIS AND CLARK” – ANTECEDENTS AND POSTSCRIPTS – Clarence Zacher

This article was inspired by the approach of the 200th anniversary of the return of the Lewis and Clark Expedition to St. Louis on Sept. 23, 1806. It is a brief review of *Lewis and Clark, Across the Divide*, published by Smithsonian Books (Washington and London) in association with the Missouri Historical Society.

In 1775 Captain James Cook visited the West Coast of North America with a shipload of scientists and an artist, James Webber, who sketched the native inhabitants. Cook's expedition mapped the coast but missed the mouth of the Columbia River, an important detail.

Jefferson selected Meriwether Lewis to explore much of western North America. Lewis adopted many of Cook's sophisticated aspirations but could not match his budget or staff of professionals.

Jefferson wrote to the learned French naturalist Bernard Lapepe: “It is not improbable that this voyage will procure us further information of the Mammoth, and of the *Megatherium* also.” He added: “There are symptoms of its late and present existence” (speculating it was still alive).

Jefferson was fascinated with fossil remains as early as 1781, when he asked George Rogers Clark, the brother of William Clark, to send him mammoth bones from Kentucky. Lewis's failure to encounter mammoths did not diminish Jefferson's interest. After the expedition's return (September 23, 1806), Jefferson in 1807 paid for Clark to oversee an excavation at Kentucky's Big Bone Lick. This apparently resulted in more than 300 fossils being shipped to the President. Jefferson divided Clark's fossils between the National Institute of France, the American Philosophical Society, and his own collection at Monticello. Many other artifacts, specimens and manuscripts were widely dispersed.

As for books resulting from the Lewis and Clark expedition, others from the Philadelphia scientific community (who had access to the Corps specimens), used bits of their information. Scientific observations were published (but not by the explorers). Benjamin Barton Smith started the trend before the expedition returned by publishing an article on a hare, a stoat, and a “marmot” that were observed in the “Missouri country” by Lewis.

Lewis had hoped for something scientifically more productive than just going from coast to coast and returning intact. However, Lewis' grand plan was thwarted during their brief period of celebrity, and others rushed to press with spurious editions, reprints, and plagiarized passages of other travelers, all attributed to Lewis and Clark.

There were accurate accounts written, but Lewis died in 1809 without a page of manuscript written by him.

FOREST PARK BIO-BLITZ

Teams of scientists, naturalists and volunteers surveyed the plants and animals in Forest Park in the September annual event called Bio-Blitz, a 24 hr. exploration and inventory of living organisms within a selected area. The event ran from 3 PM Friday until 3 PM

Saturday. WGNSS volunteers participated. Partners in the event included the Academy of Science-St. Louis, the Missouri Botanical Garden, Forest Park Forever, the Missouri Dep. of Conservation, the St. Louis Science Center, the St. Louis Zoo, and the St. Louis Parks Dept. Additional information about the event can be obtained by checking www.stlbioblitz.com.

SHAWN CLUBB ELECTED TO WGNSS BOARD

Shawn Clubb of Collinsville, Illinois was elected Member-at-Large on the WGNSS Board at its September meeting. We welcome Shawn to the Board. His election will bring additional diversity, enthusiasm, fresh perspectives and new ideas to Board deliberations.

Shawn has been a birder for seven years and has a growing interest in plants, bugs and snakes. He is presently Southwest City Editor for the *Suburban Journals* of Greater St. Louis. He has previously worked as a reporter for the *Telegraph* in Alton, the *Morning Sentinel* in Centralia, and the *Belleville News-Democrat*.

DEDICATION CEREMONY IN WEBSTER GROVES PARK - Editor

It was my privilege to attend a dedication of a Blue Star Memorial By-Way Memorial marker in Ruhe Park in Webster Groves on Sunday, Sept. 10. The Blue Star Memorial markers have been installed on highways across the country since 1942 by Womens' Garden Clubs. Most Memorial markers are along highways; there are far fewer By-Way Memorial markers to be found. The By-Way markers are installed off-road at serenely peaceful, beautiful garden spots in public places and are also intended as memorials to the men and women of our Armed Forces. People in the metro area served by WGNSS are indebted to the Webster Groves Womens' Garden Association, which maintains Ruhe Park, for bringing this honor to our area. Joan Hood, past member of the Webster Groves Park Board, who has also long been very active in local and state Garden Association affairs, was event coordinator. The City was represented by Mayor Welch and Parks Dept. members Mike Opperman and Shawnell Faber. State Representative Kathlyn Fares also spoke. Boy Scout Troop 303 handled the presentation of the Colors. Several war veterans and State Garden Club/Regional Blue Star Committee "brass" also offered remarks. All "bases" were touched in an inspiring ceremony on a picture perfect afternoon in one of Webster's beauty spots. Light refreshments were served after the ceremony.

PAPERS BY MEMBERS

Dynamic Flux Pulses Within a Large Fulgurite Thermostructure – C. Zacher et al – Presented by Zacher at the Missouri Academy of Science Geology/Geophysics Program At Magruder Hall, St. Louis Community College, April 22, 2006 (Editor's Note - Fulgurites are hollow, glass-lined conical "holes" formed by lightning stikes in "loessial" soil.)

BUTTERFLY INFO. NEEDED

“Group works to determine the rarity of a butterfly species” – Shawn Club – *County Journal* - Date Unknown) - Requests information about sightings of the rare swamp metalmark butterfly, which has been found in Victoria Glade (Jefferson County), Cuivre River State Park, St. Francois State Park, and on private property near Union in Franklin County. The North American Butterfly Society wants to request addition of this butterfly to the state endangered list along with all of its known habitats. Contact the St. Louis NABA chapter at (314) 781-7372 if you see this butterfly.

ARTICLES OF INTEREST

1. Malaria's Toll – Jason L. Riley - *Wall Street Journal* – Aug. 21, 2006 – Reports on the horrendous death toll from malaria in Sub-Saharan Africa and the tragic incompetence of Western foreign aid in dealing with the problem. Cites the success of DDT use by western nations in the 1940's to control malaria, and predicts that the future focus will be on DDT.
2. Malaria Kills Millions – We have the Cure – Tom Coburn , MD and U.S. Senator – *WSJ* – Aug 28, 2006 - Touts in-house spraying with DDT. DDT works in weeks; malaria vaccines are many years away. Bill Gates and Warren Buffet, should take notice.
3. If There's a Weed There's a Way at the Beetle Factory - Barry Newman – *WSJ* – Sept. 9, 2006 - A New Jersey bug raiser supplies a beetle (Formal name; *Gallerucella*) that eats only purple loosestrife, an alien weed that chokes out cattails and takes up space where ducks nest and turtles bask. Nothing native will eat purple loosestrife. Business is booming for the beetle raiser, the Phillip Alampi Beneficial Insect Rearing Laboratory in New Jersey.
4. New illness has WU researchers tracking ticks - Molly McElroy – *St. Louis Post-Dispatch* - Aug. 21, 2006 - A mysterious new tick-borne disease has Brian Allan (speaker at the WGNSS September 2006 general meeting) trudging through the woods at Tyson Research looking for clues.
5. The Next Generation of Conservation at Work – Tom Cwynar – *Missouri Conservationist* - September 2006 - A new plan guides the Conservation toward a better future for Missouri's resources.

MISSOURI BOTANICAL GARDEN OPENS OTTOMAN GARDEN

On Tuesday, Aug. 15, the Missouri Botanical Garden dedicated the new Ottoman Garden, the first of its kind in the U. S. This unique quarter-acre garden, located north of the Linnean conservatory, is modeled on the luxurious “Gardens of Paradise” popular in what is now Turkey in the 17th and 18th centuries. The garden includes Turkish fountains and authentic plantings. WGNSS members may wish to visit this new garden soon to view its attractions first hand.

IT'S OCTOBER AND SOME MEMBERSHIP RENEWALS ARE PAST DUE

Check your mailing label. For your convenience we've again placed a membership application form on the back page of this issue for your personal use. Act now; this offer won't last forever! If you have a question, contact Don Judd (Membership Chair) at (314) 849-2020, Randy Korotev (Treasurer) at (314) 993-0055, or Jim Adams (Editor) at (314) 961-2494. Tempus fugit!

BOOKS I FOUND INTERESTING

The Hunt for the Whooping Cranes, a Natural History Story – J. J. McCoy, Paul S. Eriksson, Publisher, Forest Dale, Vt., 1966, 218 pages.

Describes in great detail the ten-year search for the summer nesting grounds of the whooping crane, eventually found in the Wood Buffalo National Park near the Great Slave Lake in northern Alberta/the Northwest Territories. Also contains an account of the founding of the Aransas National Wildlife Refuge and a historical account of the whooping crane.

The Northern Lights – Lucy Jago, Alfred A. Knopf, New York, 2001, 297 pages

Describes the Norwegian scientist Kristian Birkeland's life-long quest to discover the origin of the aurora borealis. He was cheated out of the Nobel prize by a rival. Some of his discoveries/insights have been incorporated in The American Strategic Defense Initiative—the so-called Star Wars Defense.

THE GREAT QUININE QUEST – A BOOK REVIEW – Jim Adams Part 1

This article is a review of *The Fever Trail – In Search of the Cure for Malaria*, by Mark Honigsbaum, Farrar, Straus and Giroux, New York, 2001, 307 pages. This scholarly book describes all aspects of this dread disease, but for this review I've abstracted the parts of the book, scattered throughout the text, that deal with the search for quinine, one of the best treatments for malaria ever found. This quest involved a lengthy search for the species of the cinchona tree containing a useful amount of quinine. This was no simple matter because of the number of species in the cinchona family and its tendency to hybridize. The quest was further complicated by the fact that the cinchona tree was originally found only in the roadless highlands of the Andes Mountains.

Many botanists/scientists play a part in the quest. These included Carolus Linnaeus of Sweden, Charles-Marie de La Condamine and Joseph de Jussieu of France, Archbishop Jose Celestino Mutis and Francisco Jose de Caldas, Spaniards, and Alexander von Humboldt of Germany and his explorer-companion Aime Bonpland of France. Later participants in the search include Sir William Hooker (Director of Kew Gardens), an English doctor Nathaniel Bagshaw Ward, and British botanists Richard Spruce, Sir Clements Markham, and Charles Ledger. Another individual who made perhaps the most important contribution of all was a Bolivian Indian, Manuel Inca Mamani, of either Quechuan (Mayan) or Aymara Indian descent, who accompanied Charles Ledger on his botanizing trips. Mamani possessed a phenomenal knowledge of

cinchona, and helped find residual stands of the species with the highest quinine content, the *calisaya*, that became the variety selected for planting in cinchona plantations outside South America. His dictum that the best trees must see the snow-capped mountains was a valuable clue. Mamani descended from the Kallawaya, traditional Indian healers of the highland region of Bolivia, and may have gained his unusual cinchona expertise from these people.

Malaria is a parasitical infection. It kills up to 3 million people each year. Some parasitologists argue that malaria may have caused the death of one out of every two human beings who have lived on the planet. The name malaria is of Italian origin; it means bad air, because it was once believed to be caused by bad air from swamps. At one time the English called it the ague. The real cause of malaria, a parasite, was not discovered until 1880 by a French army doctor, Charles-Louis-Alfonse Laveran. Hence, botanists who worked on the cinchona problem in the early to mid nineteenth century didn't have a clue about the cause of malaria and didn't know how to protect themselves. Dosing with quinine to treat the symptoms was their only recourse. It is now widely accepted that malaria was brought to the New World by Europeans, like syphilis and small pox.

The European search for sources of quinine began with a report that the wife of the Spanish viceroy in Peru, the Condesa de Chinchon, had contracted malaria and had been saved by dosing with an effusion of the bark of the cinchona tree. When she was near death, a government official reported that he had been saved from certain death from the "intermittent fever" by a Jesuit missionary who suggested an Indian remedy, the bark of tree growing in the Andean rain forests. The bark was obtained and the Condesa was cured. A few years later, in 1663, she returned to Spain and spread the story of the miraculous "fever bark" far and wide. It was as if someone had discovered a cancer cure. The story of the Condesa's recovery resulted in great interest in and demand for the Peruvian bark because malaria was such a serious problem in the coastal areas of Europe.

Cinchona is a member of the madder family (Rubiaceae) and a close cousin of the coffee tree. Like coffee it often takes the form of a shrub with ovate leaves and fragrant flowers. Older cinchonas grow as high as forty to fifty feet. The best cinchonas are found between four thousand and ten thousand feet. It tends to hybridize. And at the time this interest developed, most cinchona trees were located in areas very hard for botanists to reach. To reach their growing range in the eighteenth and nineteenth centuries, one had to cross the Atlantic, sail round the Horn or cross the Isthmus of Panama, and then sail along the South American coast to land on the coast of Peru or Ecuador. From there it was necessary to mount an expedition to the western slopes of the Andes, cross the Andes and descend the eastern slopes.

As the story of the Condesa's healing spread, an enormous demand for cinchona bark was generated. A flourishing market in Europe developed, using bark shipped from South America. The bark was harvested by Indians called cascarilleros. The harvest was indiscriminate because no one knew that the quinine content of the bark varied widely, depending (it was later learned) on the species. But early on no one knew how to differentiate between species. Because of the variability of the barks, some proved medically worthless and the bark lost credibility with doctors. But the search for good barks continued because of the amazing effectiveness of the best ones. However, it was not until about the middle of the nineteenth century that botanists were finally able to (To be continued in the next issue)

identify and cultivate the best species..

The early publicity and the demand for cinchona bark had serious environmental consequences. The cascarilleros ravaged the cinchona groves indiscriminately to cash in on the new bonanza. Spain had only weak control of its South American provinces, and there were no strong local authorities to insist on conservation or replanting measures. As a result, when the English botanists visited the producing countries in the nineteenth century, all expressed the concern that if appropriate measures were not taken, the cinchonas would soon become extinct, and this valuable drug would be lost to mankind. Fortunately small stands of cinchona remained in the most inaccessible regions, and these trees were the ones with the highest quinine content.

The first description of the cinchona tree was by a European with a scientific background, a French soldier turned mathematician named Charles-Marie de La Condamine. La Condamine was sent to Quito in 1735 by the French Academy of Sciences to help settle a controversy about the shape of the earth that had been generated by Sir Isaac Newton. (Newton won the argument.) After this matter was settled, LaCondamine decided to collect some seeds and plants from the famous fever tree while in the region to take home to his sovereign, Louis IV. He went to the mountain where the finest cinchonas reportedly grew. He visited with the cascarilleros there and collected specimens of bark and flowers. He reported that the best trees, based on bitterness, had red bark. He gave quinine its English name from the Quechua Indian name quina quina, "bark of barks". He sent specimens to Carolus Linnaeus who in 1742 decided that the quinine tree should be in a genus named for the Condesa de Chinchon who had been cured of malaria by the bark. But he omitted the "h", and the fever tree became, *Cinchona officianalis*.

Although La Condamine was the first to publish a description of the cinchona tree, a botanist attached to La Condamine's expedition, Joseph de Jussieu described the cinchona tree in 1771 in a publication that was pretty much ignored because of its lack of priority. However, de Jussieu's description was much more complete than LaCondamine's. DeJussieu distinguished four types of bark: red, yellow, white and "rougesse".

The next major player in the story was Jose Celestino Mutis (later Archbishop Mutis). A student of medicine, his prowess as a doctor caused him to be invited to come to Bogota in the Spanish province of New Granada (now Columbia). Mutis readily agreed, believing that he would be able to do botanical research, a passion with him. But in New Granada he found his medical and other duties kept him largely confined to the viceregal palace. He wrote directly to Charles III of Spain in 1763 urging that he be allowed to form a botanical expedition to collect cinchona. He was concerned that the forests of Loja were now nearly exhausted by the ravages of the cascarilleros. He reminded the king that he had the responsibility to preserve this natural product, quinine, for the good of mankind. Getting no response, he sent drawings and dried specimens of cinchona flowers to Linnaeus, who replied that these were the first he'd seen in twenty five years (originally from LaCondamine) and they enabled Linnaeus to complete his classification of the genus for his *Species Plantarum*.

Mutis soon made an important observation. While riding through the mountains near Bogota he found a cinchona tree that he christened *Cinchona bogotensis*, and claimed it to be the first cinchona found north of the equator. This discovery was important

Webster Groves Nature Study Society – Founded 1920
GROUP ACTIVITY/WALK SCHEDULES
 October 2006 Update

<u>Date</u>	<u>Meeting Place</u>	<u>Time</u>	<u>Leader</u>
ORNITHOLOGY – SATURDAY Bird Walks – David Becher (314-576-1146) (If destination not given, it's "Where the Birds Are". Always bring lunch.)			
Sept. 23	North Side County Library (1640 S. Lindbergh)	8 AM	None
Sept. 30	County Library	8 AM	Becher
Oct. 7	Riverlands Teal Pond	8 AM	Becher
Oct. 14	County Library	8 AM	Becher
Oct. 21	Riverlands Teal Pond	8 AM	Becher
Oct. 28	County Library	8 AM	Becher
Nov. 4	County Library	8 AM	Becher
Nov. 11	Riverlands Teal Pond	8 AM	Becher
Nov. 18	Riverlands Teal Pond	8 AM	Becher
Nov. 25	County Library	8 AM	Becher
Dec. 2	Riverlands Teal Pond	8 AM	Becher
Dec. 9	County Library	8 AM	Becher

ORNITHOLOGY – THURSDAY BIRD WALKS – Jackie Chain – Leader (314-644-5998)

The Thursday trips will continue to meet at Des Peres Park. Beginning with the first Thursday in September (Sept.7), the meeting time will change to 8:30 AM to help accommodate the increased road traffic once school begins. There will be no formal trip on Thanksgiving Day. The 8:30 time will continue until Spring with the date for the time change to be advised later. Also, any changes following 2007 Highway 40 chaos will be decided upon in 2007.

ORNITHOLOGY – SUNDAY BIRD WALKS

(New birders are **cautioned** to dress for the weather. Bring binoculars if you have them.)

Note: For more information about these events, call Jim Ziebol at (314) 781-7372

Sept. 10	Tower Grove Park Meet at Maddy Bird Garden	8 AM	I. Hunt & M. Richardson
Sept. 24	Hawkwatch at Mark Peters' Prairie	9:30 AM	M. Peters & D. Rabenau
21 S. to Old 21 – Meramec Heights Exit. Go approximately 3 miles and turn left on Lions Den Rd. After one mile turn right on gravel road just past bridge.			
Oct. 8	Castlewood State Park Headquarters	8 AM	S. McCowan & M. Terpstra

Oct. 29	Horseshoe Lake State Park Causeway	8 AM	F. Holmes & J. Ziebol
Nov. 5	REDA (Riverlands) Visitor Center parking lot	8 AM	T. Berger
Nov. 19	Busch Conser. Area Hampton Lake Parking Lot	8 AM	T. Parmeter
Feb. 4, 2007	Baldwin Lake Boat Launch Parking Lot	9 AM	K. Lannert
Feb. 11, 2007	REDA (Riverlands) Visitor Center Parking Lot	8 AM	M. Thelen

BOTANY WALKS – Jeannie Moe – Co-Chair , Co-Leader (636-946-9802)
George Yatskievych – Co-Chair (314-577-9522) – Work Phone
Leader – Fr. James Sullivan (starting his 40th yr. in January, 2006)

Botany walks are on Monday. The Botany group visits many of the same locations as the Bird and Butterfly Groups: 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 Botany Group E-mails from Jack Harris (jahar@mac.com) or 314-368-0655 and receive an E-mail every Sunday, sometimes earlier, about the next Monday's trip.

ENTOMOLOGY GROUP ACTIVITIES – Rich Thoma, Chair (314-965-6744)

Sunday, September 24, 2006, 7 PM - "Insect Show and Tell Night. Come and hear stories about insect collecting trips over the summer. This is an opportunity to show everyone all those insects and insect related items that have been added to your collection. Experts will be present to help with insect identifications. We will be meeting at the home of George Winkler, 10 Covington Ln., Olivette, MO (314-993-1652). A computer and projector will be available for Powerpoint photos.
(Cont'd next page)

Sunday, October 22, 2006 - 7 PM – "The Japanese Pavement Ant, *Tetramorium tsushimae*, an Introduced Species Common to the St. Louis Area", will be presented by Keefe Reuther, graduate student at St. Louis University and winner of the 2006 WGNSS Scudder scholarship. This meeting will also take place at the home of George Winkler, 10 Covington Ln., Olivette, MO (314-993-1652).

Sunday, November 19, 2006, 7 PM – "The Coleoptera of Cuivre River State Park" will be presented by WGNSS member Larry Watrous. This meeting will also take place at the home of George Winkler, 10 Covington Ln., Olivette, MO (314-993-1652).

NOTICE: WGNSS cordially invites you to consider membership in the Society. Founded in 1920 in Webster Groves, it now serves about 400 households and about 500 members in the bi-state metro area. During the past 86 years many of the area's/state's most distinguished amateur naturalists have belonged. For a complimentary copy of the Society's journal *Nature Notes* (published since 1929) call the Editor at 314 (961-2494).

ADMINISTRATIVE INFORMATION

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ADMINISTRATIVE INFORMATION (Cont'd)

Making Nature Notes Useful

Nature Notes, the Journal of the Webster Groves Nature Study Society, has long been published because of its utility in furthering the work of the Society. Its most important function is bringing the monthly program of the Society to the members - Stuart O'Byrne, June 1948 issue.

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Jim Ziebol - Busch WA Breeding Bird Survey
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Call The Nature Line!

Call (314) 935-8432 for a summary of the latest bird sightings in the St. Louis Area and dates and times of bird and botany walks; there are occasional schedule changes. Please report any unusual birds to Sherry McCowan (314) 664-2381 and press "3" or wait for the prompt. You can also leave a message at the end of the Nature Line recording.

Nature Notes Deadline and Mailing Info.

The mailing party meets at the Oak Bend Library, 842 S. Holmes, Kirkwood, 10 AM-1 AM to prepare N.N. mailings. We could use your help! Call Marjorie Richardson (314) 965-8974 to volunteer. Deadline and mailing party dates for future 2006 months are below.

NN Deadline	Mailing Party
Fri 10/6	Mon 10/16
Fri 11/10	Mon 11/20
Fri 12/8	Mon 12/18

Next Board Meeting

Wednesday, October 4 at the Powder Valley Nature Center, 11715 Cragwold, 63122, Tel. 314-301-1500. Near I-44/I-270 intersection, enter from Geyer Road. Visitors are welcome. Come see your Board in action!
(If snowy or icy conditions prevail, call ahead to find if the meeting has been canceled.)

Publication Policy

Notices/Proposed Articles/Letters to the Editor must be signed to be considered. They will be considered for publication based on content and availability of space. Some editing may be done. Communications from non-member individuals or organizations must include the name and title (if any) of the sender along with a mailing address and telephone number. Send communications to the Editor, 35 Tulip Drive, Webster Groves, MO or transmit via E-mail to adams9054@sbcglobal.net

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Society Objectives

The objectives of the Society are: to stimulate interest in nature study on the part of adults and children; to cooperate with other organizations in nature study; to encourage amateur research in the natural sciences; to promote conservation of wildlife and natural beauty. Open to all with an interest in nature.

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Call the Nature Line at 314-935-8432 for meetings and bird sightings

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