



Nature Notes

Journal of the Webster Groves Nature Study Society, March 2009, Vol. 81, No. 2

First Issue November 1929

President's Corner Ann Earley

Besides the return of the spring season, March means we will return to the St. Louis County Library headquarters on Lindbergh for our monthly general program meeting. See Shawn's column for details!

Looking farther into the spring months, mark your calendar and **save the date** for this year's **WGNSS spring banquet**, which will be held on **Wednesday, May 6 at Eden Seminary Commons**. Our speaker will be Guy Sternberg of the Starhill Forest Arboretum in Petersburg, Illinois. Plan to join us for a fun and informative evening with other WGNSS members! Watch the April issue of *Nature Notes* for additional information and a registration form.

Jane Deschu has joined the WGNSS Board as Second Vice President, filling a vacancy in this position that has existed for several months. She will be coordinating the planning and preparations for this May's annual

banquet, as well as the holiday open house in December. WGNSS members may have met Jane at our program meetings, botany group walks, or other Society events, or at Rockwoods Reservation where she is a volunteer. We are very pleased to welcome Jane to the Board and to the position of Second Vice President.

We continue to seek a volunteer to serve as WGNSS Treasurer beginning in June. If you are interested in this office, know someone who might be interested, or would like more information about what is involved, please contact me or current Treasurer Mike Olson.

March Program Meeting Shawn Clubb

The March General Membership meeting will feature a Power Point presentation entitled "Megatsunami in Southeast Missouri and the End of the Dinosaurs" by Carl Campbell, who

teaches geology at St. Louis Community College-Meramec. Campbell will speak about a 10-kilometer asteroid that impacted Earth 65.5 million years ago in what is now part of the Yucatan Peninsula. It was this impact that wiped-out the dinosaurs and more than 50 percent of all species.

Campbell and his colleagues have discovered evidence of that impact and associated megatsunami in the Bootheel of Missouri. The meeting will be held at **7 p.m. Thursday, March 5**, at the headquarters of the St. Louis County Library, 1640 Lindbergh

December Botany Report

December 1, 2008
Botany Field Trip
Contributed by Jack Harris

Gray skies spitting intermittent light snow greeted nine WGNSS botany group members (Fr. Sullivan, George Van Brunt, John Oliver, Jeannie Moe, Jim Wiant, Jane Deschu, Wayne &

Nancy Clark, and Jack Harris - later joined by Nels Holmberg, at lunch) as they headed toward the Missouri Botanical Garden and the shelter of various indoor attractions.

The first stop on the agenda was the Garden's annual holiday flower and train show. The display comprised various model villages, a ski resort/ski lift, ice skating rink, covered bridges, et al. The main features of course were eight G-scale model trains that chug through the scenery, the whole set in a dense vegetative framework dominated by a wide variety of poinsettias with a few begonias here and there. Closer examination would reveal that a few plants other than poinsettias were integrated into the scale model sets. Various small plants were cast in roles to represent landscaping, e.g., mosses for lawns, bushes, trees, and *Cactus* for boulders, et al.

The group then headed for the Climatron/Temperate House complex including a short detour through the Linnean House. A sample listing of a few of the exotic plants that drew attention and a short pause by the group follows: *Encephalartos terox* (a cycad with brilliant orange cones - fruiting bodies) of the Zamiaceae family; *Eucharis formosa*, Amaryllidaceae family of South America; *Bauhinia*

x Blakeana (Hong Kong orchid tree - related to our redbud) of the Fabaceae family; *Brunfelsia latifolia* (yesterday, today and tomorrow) of Tropical America; *Solandra nitida* (chalice vine) of tropical Mexico - this plant was shedding some of its flowers and visiting children were eager to carry them around; *Billbergia distachia* in the Bromeliaceae family; and *Anthurium wendlingeri* - the center stalk of the flower was a spiral for half of its length and half straight, 41 cm (16 in.) total. Meandering into the Temperate House we observed the rare *Lindera melissifolia* (pondberry) of the Lauraceae family, *Stenocereus eruca* (creeping devil cactus), and *Opuntia basilaris* (beavertail cactus), among many others.



Lindera melissifolia
USDA-NRCS PLANTS
Database

As the noon hour approached some members dispersed to attend to

various domestic affairs while the main body continued the tradition and headed for the usual gourmet lunch. On the way to the Sassafras Restaurant the unseen skunk plant made its presence known by other means.

(Some plant nomenclature & data for this report was supplied by Wayne Clark)

December 8, 2009 Botany Field Trip Contributed by Nels Holmberg

Botanical education doesn't stop flowing in the winter. With no blooms in site, 10 hikers found plenty to expand their knowledge at Matson Hill Park in St. Charles County. The keys to winter plant identification were buds, evergreen leaves, thorns, dried seed heads and nuts.

Buds: Fr. Sullivan quickly challenged the group with leafless stems of white oak (*Quercus alba*), blue ash (*Fraxinus quadrangulata*), and spice bush (*Lindera benzoin*). Stems with fuzzy brown buds were pawpaw (*Asimina triloba*) and rusty haw (*Viburnum rufidulum*). The long sharp buds were service berry (*Amelanchier arborea*). Opposite stem buds were found on white ash (*Fraxinus americana*), burning bush (*Euonymus alatus*), and sugar maple (*Acer saccharum*).



Quercus alba
Photo by W.D. Brush @ USDA-
NRCS PLANTS Database

Evergreen leaves: Winter basal rosettes of smooth rock cress (*Boechera (x-Arabis) laevigata*) and a few sparse remaining leaves of green briar (*Smilax hispida*) were the main green highlights of the day. In promise of spring flowers, leaves of phlox (*Phlox divaricata*), Adam and Eve orchid (*Aplectrum hyemale*), wild chervil (*Chaerophyllum procumbens*), and fragrant bedstraw (*Galium triflorum*) were also found. There were a few brown leaves still hanging on to Eastern hop hornbeam (*Ostrya virginiana*) and sugar maple (*Acer saccharum*).

Thorns: Small thorns were found on wafer ash (*Zanthoxylum americanum*) and gum bumelia (*Sideroxylon lanuginosa*).

Dried seed heads: Ohio horsemint (*Blephilia ciliata*), smooth rock cress (*Boechera laevigata*), Indian tobacco, (*Lobelia inflata*), black snake root

(*Sanicula canadensis*), stick tights (*Hackelia virginiana*), and American bladder-nut (*Staphylea trifolia*).

Nuts: Black walnuts (*Juglans nigra*), shagbark hickory (*Carya ovata*) and black hickory (*Carya texana*).

We didn't look at just plants on this hike. For those who looked up there was a raucous group of Red-headed woodpeckers in the treetops. On the forest floor a large number of snail shells were noted. The largest of these was Western whitelip (*Neohelix allenii*). And the bare soil on the uphill side of the trail was well coated in mosses, with the most abundant being Yew-leaved plume moss (*Fissidens taxifolius*) and Catherinea moss (*Atrichum altecristatum*), both of which were in their winter reproductive stage so had abundant capsules.

The St. Charles County Parks Department is actively managing this park. Curving intermittent areas between hiking trails had been recently burned. This should reduce the shrubby under story, especially sugar maple, and increase spring wildflowers. The park is on the north slope of a large wooded ridge and a large new area has recently been added. The area around the park contained several new houses and for

sale signs, so the park could soon be an island.

December 15, 2008
Botany Field Trip
WGNSS botanists stayed home due to wintery precipitation.

December 22, 2008
Botany Field Trip
WGNSS botanists stayed home due to near zero temperature and below zero wind chill.

December 29, 2008
Botany Field Trip
Contributed by George Van Brunt
Seven WGNSS botanists emerged from winter hibernation and met on a beautiful, cloudless day at Rockwoods Reservation in St. Louis County. We walked the Long Loop of the Rock Quarry Trail which starts near the park office on limestone lowland and gradually climbs about 150 feet to a cherty ridge. After walking the ridge for a while, we descended to a stream bed by an old quarry site and then walked back to the park office. This walk was primarily an exercise in tree and shrub identification using twigs, buds, and fruits as identifiers. Near the beginning of our walk, we identified *Liriodendron tulipifera* (tulip tree) by its duckbill-like buds, heart-shaped leaf scars, and stipular scars surrounding

the stems. *Aesculus glabra* (Ohio buckeye) had large, reddish terminal buds that were somewhat reminiscent of the onion domes seen at the Kremlin. *Carya cordiformis* (bitternut hickory) was easily identified by its distinctive bright yellow buds that are up to three fourths of an inch long. *Celtis occidentalis* (hackberry) was identified by its corky projections on the trunk and its purple to blue-black round fruits about ¼ inch in diameter. The fruits are edible, but there is only a thin layer of pulp surrounding the seed of these berry-like drupes. We found many small *Frangula caroliniana* (Carolina buckthorn) growing along the trail. Its buds are shaped somewhat like bitternut hickory buds, but much smaller and buff-colored. *Fraxinus quadrangulata* (blue ash) was easily recognized by its 4-winged terminal twigs. *Amelanchier arborea* (serviceberry) buds are long, narrow, red, and sharply pointed. The apical (upper) half of *Quercus coccinea* (scarlet oak) buds are whitish due to the dense growth of white hairs, while the basal half of each bud is without hairs and appears reddish-brown.

Other species that we identified on our walk included *Acer negundo* (box elder) with its green terminal twigs, *Cornus*

drummondii (roughleaf dogwood), *Sideroxylon lanuginosum* (woolly buckthorn), *Ostrya virginiana* (hop hornbeam), *Carya ovata* (shagbark hickory), *Acer saccharum* (sugar maple), *Quercus marilandica* (blackjack oak), *Cornus florida* (flowering dogwood), *Vaccinium pallidum* (lowbush blueberry), *Carya tomentosa* (mockernut hickory), *Carya texana* (black hickory), *Quercus stellata* (post oak), *Quercus imbricaria* (shingle oak), *Asimina triloba* (pawpaw), *Quercus rubra* (northern red oak), *Ulmus rubra* (slippery elm), *Lindera benzoin* (spicebush), and *Gleditsia triacanthos* (honey locust).



Gleditsia triacanthos

The very imposing thorns of the honey locust are thought to be an adaptation from the days when mastodons roamed North America. Modern elephants are known use their heads to push over trees to get fruit from the highest branches, and the presence of these large thorns at elephant-head-height would certainly discourage a mastodon

from pushing over one of these trees to get its seed pods.

Finally, we identified a brown-budded *Fraxinus americana* (white ash). Father Sullivan has recognized that some white ashes have brown winter buds and some have black buds. This may indicate that there are two varieties, subspecies, or even species of white ash. No one has investigated, via DNA analysis, the significance of these two bud morphs.

Unfortunately, the emerald ash borer may destroy all evidence before studies can be conducted.

Bugged on the Ozark Trail

Ted McRae

from "The Trail Builder Newsletter" Late Fall 2008
<http://www.ozarktrail.com>

The Ozark Trail is a renowned resource for recreational activities. Perhaps less well appreciated are the outstanding opportunities for nature study it also offers. Traversing some of the state's most pristine areas, numerous plants and animals make their homes in the diverse natural habitats found along its length. While reptiles, birds, and mammals may be the most conspicuous animals encountered, they are far from the most diverse or numerous. That honor belongs

overwhelmingly to the insects.

The beetle beat

An especially amusing group of insects has actually become more common along the Ozark Trail due to horseback riders. Dung beetles are a diverse group of round, black beetles that quickly find fresh droppings – whether from deer, coyote, or horses – on the trail and begin burying it as food for their brood. Some species dig directly underneath the dung, while others carve balls out of the pat, which they roll for some distance with their hind legs before burying. Once buried, the adult female lays a single egg within each dung ball, which is then covered with soil. The eggs hatch and the larvae consume the dung from inside out. While the dietary habits of these comical beetles may be unappealing, imagine how littered the trail would become were it not for their services.

Glades are natural island communities surrounded by a sea of forest. Their shallow, dry, rocky soil conditions support tiger beetles. The splendid tiger beetle (*Cicindela splendida*) flashing brilliant green and clay-red can be found sunning on the bare rock surfaces in glades throughout the Ozarks. Adults emerge during fall

and then spend the winter deep inside tunnels dug into the rocky soil. In spring, they re-emerge and look for mates. Male tiger beetles grab females by the neck, their jagged, toothy jaws fitting precisely in grooves on the female neck designed specifically for such, and often ride on top of the female for long periods of time to prevent mating by another male.

Other insects beware

Flowers are attractive to a great variety of insects, especially bees, wasps, butterflies, and flies, as well as beetles. Other insects, however, are attracted to flowers not because of anything that the flower offers, but in hopes of snatching as prey those insects that visit the flower. An example of this is the group known as ambush bugs. These small, squat insects look like little tanks but are almost impossible to see because of their brown and yellow mottled coloring that helps them blend into their surroundings. They sit motionless on flowers and wait for a bee or other insect to land, at which time they pounce – grabbing the prey with their vise-like front legs and piercing its body with their beak-like mouthparts. An injection of toxic saliva paralyzes their hapless prey and begins dissolving the body contents, allowing the ambush bug

to suck up the liquefied contents.

Winging it

The many aquatic habitats found along the Ozark Trail also provide homes to a great variety of flying insects. Many, such as dragonflies and their smaller, more delicate relatives, the damselflies, depend upon these small ponds and lakes to complete their life cycles. While adults are conspicuous due to their large size and acrobatic flight capabilities, the immatures – called naiads – spend their lives unseen beneath the water's surface, where they are predators of smaller aquatic insects. When they are ready to transform into adults, they climb above the water and shed their skin to allow their wings to expand and harden before flying off.

One can often find the shed skins that they leave behind on cattails or other plants. At least one species, the Hine's emerald dragonfly (*Somatochlora hineana*), is restricted to a handful of calcareous wetlands in the Ozarks.



Somatochlora hineana
U.S. Fish and Wildlife Service

Because of its small population and the rarity

of the habitat in which it lives, the species has been added to the Federal Endangered Species List.

Of course, not all flying insects encountered along the Ozark Trail are desirable. A variety of biting flies, from gnats and mosquitoes to horseflies and deerflies, conspire to make your trail experience less enjoyable. Ticks and chiggers, which are not insects but actually more related to spiders, also can be encountered in more brushy areas along the trail. These annoyances can be minimized by the proper use of insect repellents, especially those containing DEET.

Trailside serenade
Some insects along the Ozark Trail are more easily heard than seen. Cicadas – large relatives of aphids and leafhoppers – sit high in the branches of trees and sing during the day. As a group, they are among the loudest animals in the world. Only the males sing, and each of the 13 species in Missouri has a characteristic song that can be used to identify the species without even seeing the insect. Occasionally an individual may be found sitting low enough to approach, but only those who do so very slowly will be rewarded with seeing this extremely wary insect before it shrieks and takes flight. Katydid, resembling

large, leaf-like grasshoppers, are another of the singing insects. Filling the night air, their rasping sounds are produced by rubbing special structures on their wings together. Several species can be found in the Ozarks, many of which are especially fond of the many oaks and hickories found along the trail. The next time you hike the Ozark Trail, take a moment to look more closely at the plants and flowers along the trail. You'll be amazed at the diversity of insects that can be seen, and your trail experience will be richer because of it.

Read Ted's insect musings on his blog:
<http://beetlesinthebush.wordpress.com/>

Sign Up for a Dazzling Workshop on the Subject of "Missouri Prairies"

Offered in cooperation with the Missouri Native Plant Society. One evening class on Wednesday, 29 April 2009, 7 - 9 pm. at Meramec Community College in Kirkwood. Two field trips 1. Shaw Nature Reserve - Saturday, 2 May 2009; and 2. Cuivre River State Park - 9 May 2009. For registration and other info visit :

http://classes.stlcc.edu/ClassSchedule/Term_Search.asp

Click on CE Spring 2009
>> NATR-Nature Study
>> enter course number "723" .

Then fill in "Advanced Search" details, e.g., times as above; "All instructors"; Building >> Meramec-Science West; >> "All Parts" of Term; Sessions >> evening; >> Schedule Type >> All Types >> Characteristics >> XNAT: Nature. Then click on "Search Class".

If all the details of the class meet your schedule requirements, then click on "Continuing Education at the top of the page and follow instructions for registration. Registration started 5 January 2009.

2009 Zoo Seminar Series

Co-Sponsored by The Academy of Science of St. Louis and Saint Louis Zoo

Wednesday, March 25, 2009; 7:30-9 pm.

The Energy-Environment Nexus: Engineering Clean Energy for the 21st Century

Pratim Biswas, Ph.D., Fellow, Academy of Science—St. Louis; Stifel and Quinette Jens Professor, Director, McDonnell Academy Global Energy and Environmental Partnership, Chair, Department of Energy,

Environmental and
Chemical Engineering,
Washington University
in St. Louis

Aerosol science
and engineering—
known as an enabling
science, it's the requisite
helpmate of scientific
progress because it
makes possible critical
and practical
applications in a number
of areas of science of
importance to us all,
areas such as

electronics, materials
science,
pharmaceuticals, and
today's headline issue,
energy and the
environment.
Environmental engineer,
Dr. Pratim Biswas
explores engineering
nanoparticles, a
subsection of this
critical discipline, to tell
us how scientists are
tackling the global
challenges of
engineering clean
energy and how
nanoparticle aerosol
science and technology
can help enable
advanced energy
technology solutions.

He discusses
energy technologies
applicable over multiple
time scales—from
current fossil fuel use
(novel modalities in coal
combustion), to
transitional biofuels

usage and sustainable
solar energy
technologies (novel
nanostructure materials);
and he looks at the
environmental
technologies that are
addressing the control of
fine particulate matter
and mercury emissions.
It's applied science at its
best, working to
engineer clean energy
across the globe.

**Call for articles,
announcements, and
reports
Malinda Slagle**

Please submit
announcements of
nature-related events in
the St. Louis area.
Also, I am interested in
original articles
regarding nature,
particularly local nature
(not reprints from
elsewhere unless you
have permission to
reprint it). I also always
appreciate group reports.
Anything pertinent to
WGNSS from anyone,
member or not is
welcome.

**GROUP
ACTIVITY/WALK
SCHEDULES**

March 2009 Update
**ORNITHOLOGY –
SATURDAY Bird
Walks – David Becher
(314-576-1146)
(If destination not
given, it's "Where the
Birds Are". Always
bring lunch.)**

<u>Date</u>	<u>Meeting Place</u>	<u>Time</u>	<u>Leader</u>
3/7	Des Peres Park	8:00 am	D. Becher
3/21	RMBS @Teal Pond	8:00 am	D. Becher
3/28	Des Peres Park	8:00 am	D. Becher
4/4	RMBS @Teal Pond	8:00 am	D. Becher
4/11	Des Peres Park	8:00 am	D. Becher
4/18	TGP@Gaddy Garden	8:00 am	D. Becher
4/25	Busch Wildlife Area @Hampton Lake	8:00 am	D. Becher

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

Continuing on
Thursdays in January
2009, the group will
meet at 830am until
May at the Des Peres
Park parking lot off
Ballas Road north of
Manchester Road behind
the Lutheran Church and

School and Des Peres
City Hall.

In May we will change
to 8AM meeting time at
the Gaddy Bird Garden
in the northwest section
of Tower Grove Park, St
Louis City. We suggest
parking on Magnolia
Avenue. Those
"westerners" who wish
to carpool may meet at 8
AM at Des Peres Park.
Beginning on 31 May
throughout the summer,
we will all resume
meeting at Des Peres
Park and proceed to
where we hope there are
birds to find.

**BOTANY WALKS –
Jeannie Moe – Co-
Chair , Co-Leader
(636) 946-9802
George van Brunt –
Co-Chair (314) 993-
2725
Leader – Fr. James
Sullivan (starting his
43rd yr. in January,
2009)**

Botany walks are on
Monday. The 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
Botany Group emails
from Jack Harris
jahar@mac.com or
314-368-0655 and
receive an email every
Sunday, sometimes
earlier, about the next
Monday's trip.

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

Sunday, March 22, 2009
at 7 PM. Fr. Jim
Sullivan, longtime
member of WGNSS and
leader of the Monday
botany walks will
change venues and
speak to the entomology
group. Topic for the
evening will be "Stories
about Plant - Insect
Interactions from the
Field". This is a great
opportunity to learn
about what insects eat
from a true naturalist.
We will be meeting at
the regional MDC office
at Busch Wildlife Area.
Directions to Busch
Wildlife Area are as
follows: From St.
Louis, take highway
64/40 west. Cross the
Missouri River. Exit at
highway 94 in St.
Charles Co. Make a left
turn on 94 going
southwest and drive
approximately 1 mile.