



# Litzsinger Road Ecology Center

## COMMUNITY NEWSLETTER

www.litzsinger.org

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*Spring brings redbud blooms to LREC. Read about other natural events to expect in March on page 4. Photo by Jennifer Brown.*



March 2011

## Beyond the Scientific Method

*by Bob Coulter*

Since elementary school many of us have had the scientific method drilled into our heads. As a result, the five, six, or seven-step procedure that “all” scientists “must” follow has become the standard image of what scientists do. Unfortunately, it’s not a very accurate perception. Scientific thinking isn’t all that linear, and trying to wrap the field work Jane Goodall and her team does with the abstract work of theoretical physicists is doomed to failure. Instead, there are more useful models of science that you might want to share with your students.

One of the more interesting models we have come across was developed by Mark Windschitl and his colleagues at the University of Washington. He argues that science happens in four conversations that interact with each other:

- Organizing what we know—reflecting on a baseline of experience with the phenomena, from which scientists (or students) identify problematic or puzzling areas.
- Generating testable hypotheses—determining which aspect(s) of the larger phenomena are worth investigating, and generating a hypothesis to test.
- Seeking evidence—developing a plan to collect evidence that confirms or challenges the hypothesis.
- Constructing an argument—linking the tentative conclusion(s) back to larger conceptual issues.

Rather than a linear path, these conversations inevitably criss-cross. As you organize what you know, you’ll be looking at preliminary data to discern patterns that inform the hypothesis you create. From there, new data might make you reconsider your hypothesis (and perhaps your data collection plan), and it always feeds back into deeper understanding of what you know. As your students work back and forth through these conversations, they will be thinking at a much more sophisticated level, equipping them well for a science-rich future. ♪



# Glass House Quiz: Buds & Blooms

by Danelle Haake and Deanna Lawlor

It may feel like we are returning to winter after our mid-February warm-up, but spring is almost here...really! Do you need a little something to prove it? Our woody friends are trying to show us this month. Last month Deanna wrote an article about observing the winter buds as they begin to prepare for spring. You can refer back to the article for some pictures of leaf and flower buds. This month you should notice a swelling in the buds as they prepare and begin to bloom.

Did you realize that all of our common deciduous trees and

shrubs have flowers? Many people don't realize this, but without flowers we would not have seeds such as acorns, hazelnuts, and maple seed helicopters. When we think of flowering trees and shrubs, what first comes to mind for most of us are the showy flowers such as dogwood, redbud, catalpa, azalea, and fruit trees. But other trees and shrubs also have interesting (sometimes beautiful and sometimes weird) flowers that are worth taking time to observe.

The woody plants pictured below and on page 3 will show off their interesting buds and blooms

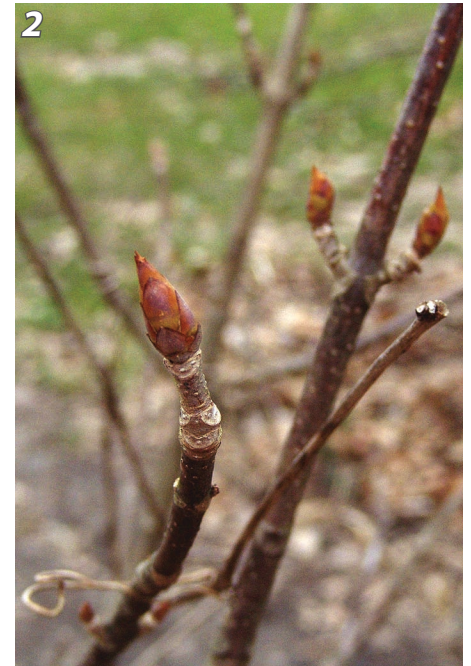
sometime this month. Match the photo with the plant.

Your choices are:

- a) spicebush (*Lindera benzoin*)
- b) hazelnut (*Corylus americana*)
- c) bitternut hickory (*Carya cordiformis*)
- d) Ohio buckeye (*Aesculus glabra*)
- e) silver maple (*Acer saccharinum*)
- f) witch hazel (*Hamamelis vernalis*)

Need a hint? See *Seen at LREC* on page 3.

All photos by Danelle Haake.



See **Quiz**, page 3





From **Quiz**, page 2



### SEEN AT LREC

**Witch hazel**, a native shrub, has a strange-, some might say creepy-, looking flower that blooms in February and March. It has a wonderful fragrance that reminds us spring is on its way.

We enjoy our witch hazel by the green house and in the savannah.

**Hazelnut** is another early bloomer, February–April. The Hazelnut has a male and female flower. The males are the easiest to observe. The male flower is called a catkin and is 1½–3" long. The female flower is tiny and tucked along the branch where you find last year's growth. Look for a tiny red stigma and style showing.

At LREC, you can find hazelnuts growing along the edge of the woodland near the south prairie edge.

**Silver maples** open early to mid March and are the earliest maples to bloom. Just like the hazelnut they are monoecious, which means they have both male and female flowers. Look for clusters of yellow to red blooms. You will see just stamens or pistils since they have no petals. From a distance you can often notice the reddish haze around maples as they bloom.

Silver maples grow along the edge of the woodland near the south prairie edge.

See **Quiz**, page 5





# Natural Events at LREC

by Leslie Memula

The weather has been teasing us lately and it makes me think about welcoming spring at LREC. Earlier this week there were several mallard ducks in the creek and a pair of Canada geese on the grass where Bob's old house used to stand. The witch hazel is blooming across from the greenhouse and I'm looking forward to seeing the bluebells and hunting for bloodroot hidden amongst the leaves on the floor of the woodland.

When I visited the Glass House the other day, I was drawn to the Missouri Department of Conservation's Natural Events Calendar hanging subtly on the wall. The month of March signals more change in Missouri as MDC's calendar indicates the emergence and activities, once again, of some of our plant and animal friends:

- muskrats breed now through September
- spicebush, wild plums, and redbuds start to bloom
- bluebirds begin nesting
- pileated woodpeckers begin to drum on trees in order to attract mates and claim their territories
- Ohio buckeyes begin to leaf out
- wild turkeys can be heard gobbling from now through early May

Feedback from many of our volunteer educators suggests that we keep track of similar natural events here at our place...Litzinger Road Ecology Center. I can certainly see the implications this will have on focusing outdoor exploration with students in the short term. However, in addition to helping us to record data as the seasons change during the school year, it will provide us with the opportunity to monitor these events over a much longer period of time—maybe years or perhaps even decades.

The next time you're out at LREC, look for ways you can contribute to our ongoing collection of natural events. We're dedicating a spot in the cabin for keeping track of the changes that take place. 🌿

Top: pileated woodpecker. Middle: bloodroot.  
Bottom: wild turkeys displaying.  
Top and middle photos by Eddie Jones.  
Bottom photo by Patrick Sweeney.

From **Quiz**, page 3

Answers:

1. b) hazelnut (*Corylus americana*). Did you notice the tiny red hazelnut flower to the upper right corner of the photo?
2. d) Ohio buckeye (*Aesculus glabra*).
3. a) spicebush (*Lindera benzoin*).
4. f) witch hazel (*Hamamelis vernalis*). Witch hazel is often yellow, rather than this red variety.
5. e) silver maple (*Acer saccharinum*).
6. c) bitternut hickory (*Carya cordiformis*). Yellow-gold buds are typical of the bitternut hickory.

References:

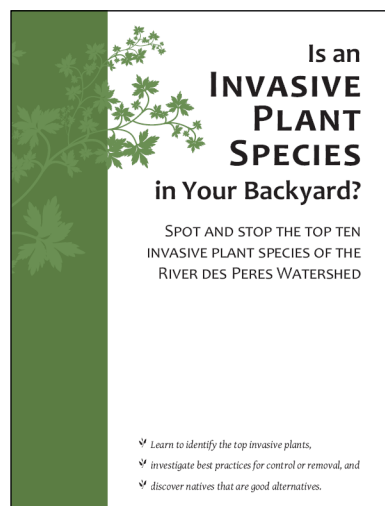
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Kurtz, D. 2004. *Shrubs and Woody Vines of Missouri*. Missouri Department of Conservation; Jefferson City, MO.

Kurtz, D. 2003. *Trees of Missouri*. Missouri Department of Conservation; Jefferson City, MO. 🌿

### Invasives Brochure Now Available!

LREC has produced a brochure detailing identification information and removal recommendations for ten of the most threatening invasive species of the River des Peres watershed. Native alternatives are also listed. You can download the brochure from the LREC web site: <http://www.litzsinger.org/invasives.html> or request a copy from a staff member. 🌿



### LREC Announcements

March 30

#### Volunteer Enrichment and Honeysuckle Removal Workday

Meet at the barn with a brown bag lunch at noon. We will learn about bush honeysuckle. Around 1 pm, we will begin removing this invasive species from several parts of the property. Feel free to bring your favorite clippers or loppers. RSVP to Martha at 314-540-4068 or [martha@litzsinger.org](mailto:martha@litzsinger.org).

March 31

#### Stream Sampling

Meet at 9 am at Glass House. Contact Danelle Haake (314-961-4410 or [danelle@litzsinger.org](mailto:danelle@litzsinger.org)) with questions.

### Local Events

March 1–31

#### March Morpho Mania

At the Sophia M. Sachs Butterfly House. More than 3,000 bright, blue morpho butterflies will be fluttering about the tropical conservatory. Learn more at <http://www.butterflyhouse.org>.

March 19

#### Horticultural Therapy Awareness Day

10 am to 3 pm at Kemper Center for Home Gardening at Missouri Botanical Garden. Experience the numerous physical and mental benefits that plants and gardening provide!

March 29

#### Patch-Burn Grazing: Is it Right for Our Remaining High Quality Prairies?

7:30 to 9 pm at the Saint Louis Zoo.

Paul Nelson, U.S. Forest Service, speaks on patch-burn grazing (a system alternating grazers and the use of prescribed fire) on tall grass prairies within Missouri.

Free. More information at <http://academyofsciencestl.org/events/>.