



# Oxley Nature Center

November/December, 2007

Volume 172

## Another CSI Mystery Strikes at Oxley Nature Center by Amy Morris

### Program information

918-669-6644

-Oxley@ci.tulsa.ok.us

-Website at "http:www.oxleynaturecenter.org".

-Children under 12 must be accompanied by an adult unless otherwise stated.

-Wheelchair accessible programs designated by ♿

-Register 48 hours in advance unless otherwise stated.

**Oxley Nature Center will be closed Tuesday, November 6 through Saturday, November 10 while staff attends National NAI conference in Wichita, Kansas.**

### -Holiday Closings:

Monday, November 12, Thursday and Friday, November 22 and 23; Monday and Tuesday, December 24 and 25, and Tuesday, January 1.

### Oxley Nature Center:

-Gate and parking lot open daily, 8:00 a.m.-5:00 p.m. except most City holidays.

-Interpretive building may be closed for renovations.

-Hiking trails are accessible during Mohawk Park hours 7:00 a.m.-9:00 p.m.

### Redbud Valley Nature Preserve:

-Open Wednesday through Sunday, from 8:00 a.m.-5:00 p.m. only. Hiking after these hours is not allowed.

-Interpretive building open Wednesday through Sunday 11:00 a.m.-3:00 p.m.

-Closed most City holidays.

**Come visit us!**

It was a Monday, like any other. The date was September 10. I arrived early, following my ritual of checking the native plant garden for damage from overnight marauders. The chokecherry was still standing upright. The armadillo had not rooted up any more wild ginger with that nose of his. The poppy mallow was still tucked safely in the ground.

Then I turned to check our hive of honeybees. At first glance, the plexiglas tube leading outside was empty except for a few dead bees. I opened the door to the hive. There were no field bees doing their wonderful waggle dance or delivering pollen. No house bees were cleaning or tending to brood. In fact, there were no bees at all. There was no "hive of activity". They were gone. I was stunned.

I went around the other side, opening that door, anxiously searching the panels. Hexagonal cells of wax at the top of the hive were glowing softly with golden honey and bee bread. There was evidence of recent brood rearing. It almost appeared as if all the bees had just "stepped out" for a moment.

Then I saw the two lone worker bees. Two highly social insects without a queen or an active hive. They seemed to be wandering aimlessly. Their job as honey bees was done. What had happened here?

I went outside, looking in a wide circle outside the hive exit. No sign of dead bees on the ground, no active honeybees flying in the area, no swarm of bee bodies gathered around a queen hanging from a tree branch. Bees don't swarm in the fall anyway. Where did they go?

Honeybees are not native. Originally imported from Europe, they play a vital role in the world food supply as the primary pollinators of hundreds of fruits, vegetables, flowers, and nuts. They are responsible for pollinating over one third of American food crops. According to a Cornell University study, honeybee pollination is valued at \$14.7 billion annually.

Honeybee populations have been declining since the 1940's. In recent years, chemical pesticides, genetically modified crops such as Bt corn, and habitat loss have all been listed as potential problems.

That was until 2004, when reports of unusual declines in colony populations created alarm, even becoming a topic of Congressional Hearings. By April of 2007, **Science** magazine reported "more than a quarter of the country's 2.4 million bee colonies have been lost—tens of billions of bees".

What is behind these mysterious and potentially disastrous losses? Many theories have been suggested and explored. A name has been conferred: **Colony Collapse Disorder—CCD**.

So far, it has been found in at least 27 states, resulting in the loss of 50-90% of colonies in beekeeping operations across the U.S. Losses have also been reported in Europe, Canada, Central America, and South America.

Teams of scientists have been studying colony collapse disorder (CCD); looking at prime suspects such as viruses, pesticides, and fungi. Recent advances in genetic sequencing are providing clues and the latest studies have found a significant connection between a virus transmitted by the varroa mite, and CCD.

But the problem is more complex than that, and the studies are continuing. For more information on the latest findings, go to **ScienceDaily.com (Sept. 6, 2007)**.



CCD—we think this is what happened here; to us, to **our** bees, on September 9, 2007. A mysterious virus that swept through a formerly strong hive, leaving behind only two worker bees, confused, no longer with purpose. So we dismantled our hive, carefully preserving what was left, the golden honey.

**For more on bees, see page 2**

# Nature Center Happenings

## Volunteers Graduate: Lead Fall Tours

Our new Volunteer Naturalists finished their training program and “hit the trails” immediately, leading school tours for area school children. They have been exploring the forests, wetlands, and grasslands at Oxley, sharing new discoveries at every turn.

We would like to welcome:

**Ed Cumming, Eileen Davis, Jane Knoten  
Debbie Smith-Berlin, and Sonja Steinmetz.**

Thank you for joining our team! We hope the rewards you reap will be as plentiful and boundless as nature.

## Kid's Saturday Programs

December 8, 10:00-11:00 a.m.

**Discovery Club (Ages 3-5)** Each child accompanied by an adult, please

“**Feed the Birds**” Why do we do it? We will discuss winter survival strategies. Some birds migrate and some stay here year round. We will make a bird feeder ornament to take home.

**Adventure Club (Ages 6-8)** Kid's only, please

“**Berry Wreath**” We will decorate for the birds with fruits from trees, vines, and bushes.

**Junior Naturalist (Ages 9-11)** Kid's only, please

“**Recycled Christmas Ornaments**” We will make Christmas ornaments out of old bottle caps to give as inexpensive, creative, and earth friendly gifts.

\$2 for general public, free for members.  
Please register in advance, all ♿

## Bees and Other Pollinators at Oxley in 2008

We have plans for a new hive for our honeybees, which will be in place when our interior building renovations are finished and our new exhibits are installed. At the same time, one of our new exhibits will demonstrate a backyard habitat.

The backyard habitat exhibit will flow visually outside to connect with our habitat garden of native plants. This area will stress the importance of all pollinators; insects, birds, bats, and other animals that carry pollen essential for plant reproduction.

Inviting native bees to your backyard habitat by planting bee-friendly plants can help support populations of these key pollinators. They pollinate native plants; increasing bloom, fruit, and seed production. They are also capable of pollinating numerous crops such as nut and fruit trees.

Of the 4000 species of native bees identified, the majority are solitary, as are our carpenter bees. These large bees appear along the boardwalk leading to the Interpretive Building in April. Their large size and intimidating appearance often frighten visitors.

Females of this species tunnel into the wood rails to build nests and lay eggs. Males guard the area with a series of dazzling territorial aerial displays and near-sighted advances, but keep in mind, they do not sting.

Other solitary bees are opportunistic, building their nests in tiny holes or tunnels they find. Leaving dead branches or handmade bee blocks may encourage them to inhabit an area. A bee block can offer drilled holes of varying depths and widths, to help determine what is preferred by which species.

Bumble bees and sweat bees are colonial species, and live in the ground. Leaving a patch of bare ground may encourage them to take up residence. Here at Oxley we won't encourage either of these species to make a home too near the building or trails.

Native bees are incredibly diverse in size, shape, color and behavior. They can generally be observed closely as they go about their daily business, and they are a lot of fun to watch.



## Astronomy Programs

\$2 for general public, free to members, registration required, open to all ages, ♿  
Bring binoculars if you have them, dress warmly, and meet at the circle drive on the East side of Lake Yahola.

**Thursday, November 1, “Catch a Falling Star” 7:00-8:00 p.m.** Sunset: 6:28 p.m. No Moon  
Most meteors burn up in the atmosphere. Eventually the rain washes the tiny burned bits to the ground. Where are they? What do they look like? How do you find them?

**Friday, December 21, “Mars!” 7:00-8:00 p.m.** Sunset: 5:21 p.m. Moonrise: 2:48 p.m.  
It will be 8.5 years before Mars is this close to Earth again. We can also watch the moon dance past Mars this week..

# Programs and Special Events

## November

**3 "Saturday Morning Birding"**      Ages: All, &  
Saturday      8:00-9:45 a.m.  
Free      registration not required

Rafts of ducks and grebes gather on the lake. Huge rivers of geese traveling south flow high overhead. Winter sparrows, juncos, and towhees gather at the feeders. It's a busy time of year for birds. Join us at Oxley and bring binoculars if you have them.

**4 "Gesture Sketching"**      Ages: 8 to adult, &  
Sunday      2:00-3:30 p.m.  
\$2 for general public      Free for members

Did you know you can sketch an object without looking at your paper? Come and try it. It's fun! See what you can create. Meet at Oxley.

**11 "Morning Walk"**      Ages: All, &  
Sunday      8:00-10:00 a.m.  
\$2 for general public      Free for members

Come join us for an early morning walk. See what animals are up late. Enjoy this beautiful time of day. If conditions are just right, we may see *frost flowers*.

**17 "Soap Making"**      Ages: 18 to adult, &  
Saturday      2:00-4:00 p.m.  
\$20 for general public      \$15 for members

Handmade soap makes a wonderful gift, for yourself or someone special. Come experience soap making the old fashioned way. We will use fats and lye for the base, and each participant may customize their soap to suit their own purpose. Meet at Oxley.

**20 "Frosty Full Moon Walk"**      Ages: All, &  
Tuesday      7:00-8:30 p.m.  
\$2 for general public      Free for members

The moon is growing fuller, and the nights more frosty. Within days is a time set aside for giving thanks. Start early. Take a little time to enjoy the outdoors at night. Gather your friends or family, or bundle up yourself, and join us at Oxley for a walk in the heart of nature.

## December

**8 "Saturday Morning Birding"**      Ages: All, &  
Saturday      8:00-9:45 a.m.  
Free      registration not required

Winter bird watching offers an opportunity to see birds flitting about in a forest bare of leaves. Observe birds balancing on tall grasses in the prairie, reaching for seed heads. Hear the sounds carried on the winter air. Meet at Oxley and bring binoculars if you have them.

**15 "Recycled Jar Gifts"**      Ages: All, &  
Saturday      10:00-11:30 a.m.  
\$5 for general public      \$3 for members

Are you looking for an earth friendly gift for the holidays? An old pickle jar will become a reusable, aesthetically pleasing kitchen or bath accessory with a little creative paint and decoration. We'll fill them with some homemade bath salts. Meet at Oxley.

**20 "The Long Night Full Moon Walk"**      Ages: All, &  
Thursday      7:00-8:30 p.m.  
\$2 for general public      Free for members

The longest night of the year is almost upon us. Tonight, take a break from the bustle of holiday preparations. Walk a moonlit trail at Oxley surrounded by sky, waterways, trees, and creatures that find a home here. Will the night be quiet, or filled with coyote song or owl talk?

**22 "Winter Solstice"**      Ages: All, &  
Saturday      2:00-4:00 p.m.  
\$2 for general public      Free for members

Join us for a celebration of the Winter Solstice. Today marks the shortest day and the longest night of the year. The sun appears at its lowest point in the sky. Worldwide, cultures greeted the coming winter with anticipation, hope, and joy; following their own traditions. We will welcome the approach of lengthening days with a walk through the forest, leaving "gifts" for residents there.

**29 "Geocaching for Beginners"**      Ages: 12 to adult, &  
Saturday      1:00-4:00 p.m.  
\$20 for general public      \$15 for members

Borrow one of our GPS receivers, or bring your own (with fresh batteries and the owner's manual). We will punch in coordinates and go hunting hidden "treasure" in this fun worldwide scavenger hunt. Meet at Oxley.

Please register two days in advance of classes  
\* unless stated otherwise. \*

## Frost Flowers

This should be the year. The conditions appear to be right. Two of our native wildflowers that mature late in the year, yellow wingstem (*Verbesina alternifolia*) and white crownbeard (*Verbesina virginica*), also known as frostweed, are especially prolific this year.

Both these plants have winged stems and grow up to 4-6 feet tall. They are prevalent on the drive into Oxley and along the trails and in the prairie. They nestle back into the forest edge just along the roadside leading to the Lake Trail. This year they are abundant. That increases your chances of seeing this natural phenomena.

These late-bloomers attract a large number of nectar gathering butterflies and other insects in September and early October. They are an important source of energy for migrating monarchs. Their gift to us does not end there.

When they go to seed, their stems remain green and tender, with a pithy interior core capable of holding an abundance of moisture if the rains have been adequate. That is the second important criteria—a wet fall season.

Now we wait for that first hard freeze of the season, when the ground is not yet frozen. The moisture in the stem of the plant expands, causing long, thin cracks to form along the length of the stem, splitting it. Water is pumped out through tiny vertical rows of fissures by capillary action and freezes upon contact with the air.

As more water is forced through the cracks, more thin ice layers are pushed further out from the stem, causing delicate petals or ribbons to form in exquisite patterns. As more cracks reveal layers of thin ice, delicate petals form “flowers of ice” or curls that resemble ribbon candy.

Frost flowers are best seen in the early morning or in shaded areas. Once the sun touches them, the ethereal ice forms begin to disappear. Finding frost flowers may be a once in a lifetime event. It cannot be guaranteed nor predicted. Discovering them can be an exceptional and wonderful treasure. It is fleeting. No photograph can capture the delicate beauty. The vision, the experience, will rest with you.

The conditions are good this year, so get out there and look after that first hard freeze. If you find them, I guarantee you won't be disappointed!

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