

ARKANSAS STATE PLANT BOARD  
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Vol. 46, No.3	<b>APIARY NEWSLETTER</b>	September 2009
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**APIARY LAWS**

Since our last newsletter the Apiary Section has had the opportunity to attend three beekeeper association meetings that were open to all surrounding area beekeepers. These meetings were very beneficial in the process of updating our Apiary Laws. At each meeting the current laws and the proposed Bill HB1873 were reviewed, and differences were discussed. At each meeting comments were received for the Interim Study Committee.

We currently have six more meetings planned. All will be open meetings (so you do not have to be a member of an association to attend). The next six meetings are as follows:

DATE/TIME	ASSOCIATION	CITY	LOCATION
9/8/09-7:00pm	West Arkansas	Barling	Janet Huckabee-AR River Valley Nature Center
9/22/09-7:00pm	North Central	Mountain Home	Farm Bureau Insurance Office
10/1/09-6:30 pm	North West	Fayetteville	County Extension Office
10/9/09-4:00pm	Arkansas State	Mountain View	Ozark Folk Center
10/15/09-1:00pm	South Arkansas	Leola	Leola Baptist Church
10/20/09-6:30pm	Boone County	Harrison	Farm Bureau Building

If your association is not listed above, and has yet to host a meeting please contact our office to set a date. These meetings will be open to the public and the local State Senators and State Representatives will be invited to attend. Meeting dates established are posted on our website at: [www.plantboard.org](http://www.plantboard.org); once

on the home page – click on *Apiary Law Changes*. We will also send out notification of the meetings to the surrounding area beekeepers two weeks before the meeting, and the meetings will be listed in newsletters (if the information is available by print date).

All comments collected will be turned over to the Interim Study Committee. Comments will not be altered in any way. The Interim Study Committee will review each comment and use that information in forming a new Apiary Law. I urge every beekeeper to submit comments, and I ask that the comments be detailed so that anyone reading the submitted comments can understand the intent of the comment. I do not believe that there is a beekeeper on the Interim Study Committee so I want you to write detailed comments that can be reviewed and understood efficiently.

If you attended one of these meetings and did not submit a comment, or if do not plan to attend any of the meetings and would like to submit a comment you can do so by the information provided below.

Comments will be taken at the meetings, by email at: [mark.stoll@aspb.ar.gov](mailto:mark.stoll@aspb.ar.gov), or by mail at:

Apiary Section- Arkansas State Plant Board  
Attn: Mark Stoll  
P.O. Box 1069  
Little Rock, AR 72203

**BEGINNING BEEKEEPING CLASSES**

The University of Arkansas Cooperative Extension Service will be offering a series of Beginning Beekeeping courses in different locations around the state this winter. Courses will cover a variety of topics, including honey bee biology and pest management. Classes are intended as an introductory course for new beekeepers a refresher

course for the experienced. Classes will be presented free of charge and open to both beekeepers and the non-beekeeping public. If your association would like to schedule classes, contact Jon Zawislak at 501-671-2222, or by email at [jzawislak@uaex.edu](mailto:jzawislak@uaex.edu).

## **ONGOING RESEARCH AT U OF A**

Roxane Magnus, a Master's Student working in Dr. Allen Szalanski's Insect Genetics Laboratory at the University of Arkansas, is studying genetic variation of queens from southern queen breeders. So far, from the five queen breeders she has sampled, only three mitochondrial DNA mitotypes in the 'C' lineage have been found; C2, C11, and C12. This lineage consists of *Apis mellifera ligustica*, *A.m. carnica*, and *A.m. caucasica*. These three mitotypes are found in nearly 90% of the managed colonies that she has characterized so far. However, her genetic analysis of 400 feral bee samples from across the southern US have revealed that there are at least 35 mitotypes from 4 different lineages. Providing queen breeders with new genetic haplotypes and lineages from the feral bee population (which has already started thanks to our research) may help to increase the genetic diversity of honey bees available to beekeepers in Arkansas. She plans to complete her genetic characterization of queens from at least 20 queen breeders this fall.

Justin Whitaker, a MS student with Dr. Allen Szalanski, has confirmed the existence of *Nosema ceranae* in Arkansas using molecular diagnostic methods. Recently, other scientists are concluding that *Nosema ceranae* may play a significant role in CCD. Our lab has received samples of bees from South Dakota, Wisconsin, Nebraska, Pennsylvania, New York, and Arkansas. Using a molecular marker specific for *Nosema ceranae*, bees from about 132 apiarist keeping anywhere from one colony to several thousand colonies have been tested, with many colonies found to harbor *Nosema ceranae* infections. Many samples were also tested using a molecular marker for *Nosema Apis*, but none have so far been found to harbor the "old" *Nosema*. Evidence seems to be mounting that *Nosema ceranae* has actually displaced *Nosema apis*, essentially beating it at its own game. In Arkansas, the story is shaping up to be similar. Out of about 50 colonies tested from beekeepers across the state, 4 colonies in 4 different counties were found to be positively infected with *Nosema ceranae*. Those tested for *Nosema apis* have shown no sign of it. There are more samples to be tested, but the 4 *Nosema ceranae* positives were from

Craighead, Johnson, Pulaski, and White counties. If anyone has bees to contribute to be tested, please send them in to the Insect Genetics Lab in 70% or higher alcohol (rubbing alcohol is fine). Those interested can contact Justin Whitaker at [jtwhitak@uark.edu](mailto:jtwhitak@uark.edu).

## **NEWS FROM THE HILL**

Dr. Don Steinkraus, University of Arkansas, has been busy in the bee world. Every spring Dr. Steinkraus teaches an Apiculture course at U of A. This past spring the class contained 12 students that learned how to keep and manage bees, establish a package colony, how to use bee equipment, made beeswax products, compared honeys from many different floral sources, studied bee anatomy, collected pollen, observed stinging and much more.

Along with teaching Apiculture classes Dr. Steinkraus also conducts various research projects. He has recently had an article accepted for American Bee Journal on bird predation on honey bees. It will appear in the September or October 2009 issue. This article is based on observations Dr. Steinkraus made this summer on Summer Tanagers, also known as "bee birds" feeding on the bees in his colonies.

Dr. Steinkraus's lab is also studying the seasonal occurrence of *Nosema ceranae* and amoeba disease in honey bee colonies.

Jon Zawislak and Dr. Steinkraus have also submitted a research article to the Journal of Apiculture Research on their study of botanical smokes for the control of varroa mites.

## **BEE BUZZ**

With the increase in attention to problems affecting the honey bee interest levels are on the rise in Arkansas. We are seeing more articles in the newspapers, and the apiary office is receiving more phone calls about bees and how to start beekeeping. I was out checking swarm traps the other day and at one trap location I had two people express interest in keeping bees. The increase in articles about CCD and other bee problems has increased the interest in beekeeping in Arkansas.

Along with this increase in interest Arkansas has many resources to help the needs of beekeepers across the state. Along with the Apiary Section of the State Plant Board beekeepers also have Jon Zawislak, with extension services, who covers research and education, Dr. Steinkraus, with U of A, who teaches Apiculture and conducts research, and Dr. Szalanski, with U of A, who along with his Master Students

conducts viable research on problems facing the honey bee.

## **FROM THE FIELD**

### **Betty Scott:**

Just a reminder to beekeepers, make sure that you check your colonies for Varroa mites. One quick way to check is to do a capping scratch on the drone brood. A sugar shake, an ether roll, or sticky boards will let you know how much of a load of mites you may have in your hives. This is especially important when the Queens shut down for the fall, at this time the mites will move from the brood cells to the bees themselves. If the hive has too many mites it may collapse.

Inspections in the last 2 months or so have indicated that several beekeepers have a large number of Small Hive Beetles in their hives. However, I have not seen but a few larvae. As the weather cools the larvae will not be as big a problem (but you may start seeing more), beekeepers still need to be aware of the load of SHB so they can be treated for this fall. Beetle traps seem to be doing a good job for most of the beekeepers that are using them. However, ground treatment will also need to be used. Some beekeepers are using bottom board traps with some oil, these traps work on the same principal as the smaller traps but on a much larger scale.

Beekeepers also need to make sure they have good laying Queens in their hives going into the winter. Queens that do not have a good brood pattern need to be replaced ASAP.

When taking off the fall honey crop beekeepers need to make sure they have left enough honey on the hives for winter. After the honey is removed, medications may be placed on the hives. Always use the medications as per label directions.

Hope everyone will have a good honey crop for 2009 and our bees will come out of the winter in good condition and ready to split in 2010.

## **BEE NEWS**

### **Honeybees may provide plants a protective buzz: pest caterpillars eat less when pollinators zoom by**

[Science News](#), by [Susan Milius](#)

**SUMMARY:** The buzz, buzz, buzz of foraging honeybees zipping overhead can keep caterpillars

below from getting enough peace and quiet for a full meal, says Jurgen Tautz of the University of Wurzburg in Germany.

In tests, bee flight-path distractions took such a toll on dining that caterpillars ate only about a third of the leaf area they consume in a bee-free zone, Tautz and his Wurzburg colleague Michael Rostas report online December 22 in *Current Biology*.

Bee-traffic noise as a pest deterrent is "a very cool and novel idea," says Jeff Conner of Michigan State University's W.K. Kellogg Biological Station in Hickory Corners. Earlier work, including his, showed that pests eating at plants make the plants less attractive to pollinators, but "this new study turns that idea on its head," he says. The pollinators are making plants less attractive to pests. So far Tautz has tested the idea only in a strictly controlled setup. He and his colleagues put up a pair of tents housing arrays of plants. In the various runs of the test, researchers used bell pepper plants, once with and once without fruits, as well as soybean plants. A beehive opened into one tent, and some 50 bees at a time buzzed over the plants on the way to collecting sugar water from feeders in the corners.

Tautz chose the beet armyworm as a sample pest. This caterpillar feeds on some 50 plant species. Army worms are relentless munching machines, but they stop moving and sometimes drop off their perches, if a wasp flies by. Plenty of wasps eat caterpillars, and Tautz says that he has found sensory hairs on caterpillars, including beet armyworms, that detect the wasps' wing beats.

In tents with bees flying over plants without fruit, caterpillars did less damage to leaves than in quiet tents, the researchers report.

In the tent without bee traffic and with peppers already forming on plants, the quiet didn't make as much of a difference in leaf damage. But that's because caterpillars took advantage of the bee-free peace to move off the leaves and start eating the peppers themselves, Tautz says.

Also, he says, "Alternating rows of vegetables and flowers not only look beautiful, they may reduce the use of pesticides," he says.

Disappearing Bees Have Devastated Ribosomes A study in the Proceedings of the National Academy of Sciences by May Berenbaum and colleagues finds that bee colony collapse disorder seems to be related to bees' ribosomes breaking down, which keeps them from making the proteins they need to deal with stress and disease. Steve Mirsky reports:

A big clue about what's behind the disappearing honeybees, also known as colony collapse disorder, or CCD: May Berenbaum's team at the University of Illinois at Urbana-Champaign found that bees' ribosomes were torn up.

"The ribosomes make the proteins that allow bees to respond to pesticides, to respond to diseases,

to respond to poor nutrition. So the ribosomal fragments that we were finding explain a lot of things, explains among other things the observation that CCD seems to be caused by everything. And in fact it very well might be that once the ribosomes cease functioning properly, then anything can cause bees to go under."

A possible cause is multiple viral infections. "So the bee apparently has the capacity to deal with one or two of these, but multiple viral infections, basically the whole system breaks down." The finding, in the Proceedings of the National Academy of Sciences, doesn't pinpoint a cause or cure for CCD. But "we now have an explanation for what went wrong."

—Steve Mirsky

FORWARDING SERVICE REQUESTED

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Apiary Section

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