



The glowworm



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Despite the cold, December can be a busy month for insects and people (see article on bee behavior in the winter). Take some advice from bees and stay active during your break by writing an essay for the Bee Essay Contest (details inside). Every year we receive excellent essays and have even had state winners become national winners! December can also be a time of celebrating, reflection, and looking forward to a new year. If you plan to attend Entomology Camp next year, give the registration sheet from the *Gloworm* to your parents or grandparents. Camp registration would make a great present for an unsuspecting youngster. A great companion gift to Camp registration would be a book on insects or a field guide such as a Peterson's Field Guide or the Golden Guide Book, 'Insects'. To keep a lighthearted tone to this last *Gloworm* of the year, we have some poetry and interesting ideas for activities. Dr. John and I have enjoyed sharing ideas with you through the *Gloworm* and Camp. Keep bugging and don't forget to share your observations or experiences for use in a 2007 edition of the *Gloworm*!

Dr. David Held and Dr. John Guyton

When I think about it very much
My mind usually turns to bugs and such
I've found them interesting and neat
with their unique antennae and feet.
Most get around on their wings
Visiting flowers and other smelly things.

Some bugs are curious looking to us
and if they get to close, we make a big fuss,
But really about bugs if the truth's to be told
Most of the 6 legged critters are shy, not bold.
They go about in their own little world
Eating and reproducing, just giving life a whirl.

– Dr. Mike Williams (12/06)

What would a *bah-hum bug* look like?

The University of Kentucky has produced another spectacular addition to their entomological web site by posting ideas for Insect Christmas Ornaments made from plant parts. Check it out and add some 'insectment' to your Christmas tree! You may even want to save your ornaments and display them at next years Mississippi Entomological Association's 4-H Art Exhibition and Photo Salon. <http://www.uky.edu/Ag/Entomology/ythfacts/allyr/ornament.htm>

Bee Essay Contest Deadline Approaching

Each year the Mississippi Beekeepers and the American Bee Federation Sponsors the Bee Essay Contest. The Mississippi Beekeepers award \$100 for 1st prize, \$75 for 2nd and \$50 for 3rd. The 4-H foundation also awards prize monies for other finishers in the contest. The deadline for the contest is January 15. *It would be a GOOD project for 4-Hers to work on during the holidays.* Check out the 4-H Entomology WEB page on MSUCARES to get the directions for completing this contest.

http://msucares.com/4h_Youth/4hentomology/bee_essay_contest.html

ANY 4-Her can compete! Send completed essays to Dr. Clarence Collison, Box 9775, Mississippi State, MS 39762.



Congratulations to Ashley Cooper

Ashley's photograph "Green Goblin" was selected as best of show at the Mississippi Entomological Association annual meeting. This picture was displayed along with other artwork at the meeting. As an award, she has been given a scholarship to Bug Camp next summer. Remember to submit your pictures or artwork for the meeting next. More details in upcoming editions of the Gloworm.

Sprinkle a Few Insects in Your Christmas Carols this Year

Bugs seem to be found in every environment and I have seen several renditions of this song over the years. We told our girls the bagworms in our cedar trees were a sign of good luck and have since heard them tell others - this must be how those stories get started...

On the first day of Christmas my true love sent to me: a bagworm in a Christmas tree
On the second day of Christmas my true love sent to me: 2 shield back bugs
On the third day of Christmas my true love sent to me: 3 praying mantis
On the fourth day of Christmas my true love sent to me: 4 fireflies flashing
On the fifth day of Christmas my true love sent to me: 5 golden scarabs
On the sixth day of Christmas my true love sent to me: 6 dragonflies a laying
On the seventh day of Christmas my true love sent to me: 7 whirligigs a swimming
On the eighth day of Christmas my true love sent to me: 8 ants a milking
On the ninth day of Christmas my true love sent to me: 9 honeybees dancing
On the tenth day of Christmas my true love sent to me: 10 fleas a leaping
On the eleventh day of Christmas my true love sent to me: 11 butterflies piping
On the twelfth day of Christmas my true love sent to me: 12 crickets drumming

Christmas Bug Reading List

"The Cricket on the Hearth" by Charles Dickens

"To the Cricket" a sonnet by James Whitcomb Riley

Shakespeare's "Pericles" in which he refers to the crickets singing by the oven.

"On the Grasshopper and the Cricket" sonnet by Keats

How do Insects Survive the Winter-Diapause?

Insect typically spend winter in a certain life stage-eggs and adult stages being most common. As winter approaches, most insects will enter diapause, an inactive state of arrested development. During diapause, females do not lay eggs or give birth, eggs do not hatch and most insects remain in their current form, nymphs, larvae or pupae. Their metabolism slows and some actually produce 'antifreeze' to keep the water in their hemolymph from freezing! They live off stored fat until warmer temperatures or a change in daylength convince them winter is over.

Honey Bees Exercise to Ward off the Cold

Honey bees do not enter diapause, instead they use exercise and body heat to stay warm and protect the queen. When temperature drop to the mid 50s (F), workers cluster around the queen, brood and a supply of honey. The periphery of the cluster is at least two bees thick. Within the cluster the bees have room to move and they vibrate their wings vigorously to generate body heat. Wing vibrations keep the cluster a comfortable 65–86° F. We shiver in response to cold to generate heat just as the bees vibrating their wings to do.

Dr. David Held and Dr. John Guyton

**ATTENTION: YOUNG PEOPLE –TEACHERS – PARENTS
ALL WHO ARE INTERESTED IN ENTOMOLOGY!!!!**

THE MISSISSIPPI STATE ENTOMOLOGY DEPARTMENT PRESENTS ENTOMOLOGY CAMP:

Camp #1: June 17–21 – Plymouth Bluff Environmental Camp, Columbus

This camp is for **adults and youth** (over age 10) who want to learn about insects from experts. The camp will be taught by professors from the Entomology Department at Mississippi State, and will be educational and fun!!!!

- Learn how to collect, identify, and preserve insects!
- Learn about unique critters you've never seen, yet they live all around you!
- Make an insect collection with help from the experts!

4-H rules and guidelines apply.

Camp #2: July 15–19 –Plymouth Bluff Environmental Camp, Columbus

This camp is for **adults** (teachers, college students, youth leaders) that are looking for a unique learning experience. The camp will be also be taught by professors from the Entomology Department at Mississippi State, but will be available for college credit at Mississippi State University or CEU credits for teachers! This camp will include:

- Lecture and field collecting components that cover ecology, behavior, and taxonomy of insects
- Field identification and use of keys for family level identification of pinned specimens
- Field collecting methods

**Mississippi State University
4-H Entomology Camp Registration Form**

I will be attending CAMP Session #_____. Indicate 1 or 2, please!

Indicate t-shirt size: Small _____ Medium _____ Large _____ XL _____ Other _____
All shirt sizes are measured in adult sizes, the vendor does not handle children's sizes

Name: _____

Address: _____

City: _____

State: _____ Zip: _____ County: _____

Age: _____ Gender: _____

Telephone _____ email _____

I am interested in: CEUs or credit hours.

For adults attending Camp #2, please check the appropriate box above if you need CEU credits or wish to take the course for credit.

Please submit a **separate copy of this form for each camper** - be sure to indicate the session the camper will be attending.

Certification of health is required - so camp physicals are in order
Mail individual applications along with **\$60.00 deposit** to reserve your place to:

**Entomology Camp
MSU Entomology Department
Box 9775
Mississippi State, MS 39762**

Charges include room/board, t-shirt and miscellaneous supplies. Pins and insect boxes can be made available for an additional cost. Deposit is not refundable after May 1, 2007 for camp #1 and June 15, 2007 for camp #2, deposit is applied to camp costs.

**Enroll now for either camp!! Out of state campers are welcome!!!!
Enrollment is limited and will be on a first come basis.**