The gloworm

Mississippi State University Extension Service

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Can you believe we're still seeing butterflies in great abundance in butterfly gardens, even though we have had a couple of nights of light frost? The dry weather must have made the plants more resistant because flowers are still abundant and so are the butterflies. I've seen almost every variety of common swallow tail in the last week. Monarchs, gulf fritillaries, buckeyes, painted ladies and sulfurs are still easily seen during the warm part of most days.

We are almost finished with our `show' season for entomology projects for 2005. The Art Exhibition which began during the first week of November is still going on until Thanksgiving. We received more than 50 entries for the exhibition. Thanks, it is a great beginning and we hope to do it again next year, so NOW is a good time to begin getting ready for the 2006 Entomology Art Exhibition which will be in November next year. The Entomologists who came to the Mississippi Entomological Association meetings voted the Honey Bees Nectaring (a black and white) photo of Ms Caitlin Myrick the best of the show for the MEA. We have continued to allow folks to vote for the exhibitions after the MEA meetings so we will see who else gets selected by the general public. We had a number of adult entries in the exhibition, We welcome those as well!

We are currently accepting poetry and `buggy' stories for the December issue of the Gloworm. Those need to be sent in by December 3rd so we can get them in the December issue of the Gloworm. As with the Art Exhibition, adults may also submit entries for this project.

Remember the Bee Essay Contest is due on January 20. It would be good to do it before the Holidays as many folks get really busy when those come around. I'm happy to say I already have an entry for the Bee Essay. Thanks Merry, you've set a high standard!

We're already making plans for 2006. Camp dates are set for the 3rd week in June and the 3rd week in July. The first camp is at Wall Doxey State Park and we are almost certain the 2nd will be at a neat church camp near Newton, Mississippi. So as you make your wish list for the holidays, don't forget to add camp.

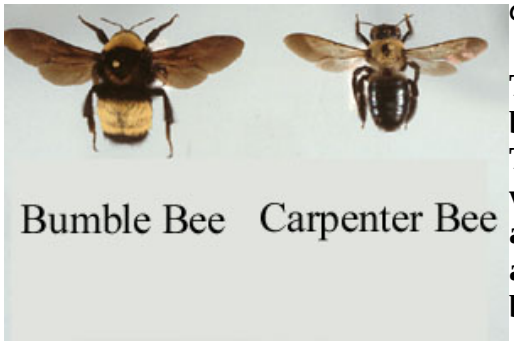
Recently I received a number of questions from a young person about bees, other than honey bees. So, I thought we would share some information about some of the common bees we see each summer. Most of what we commonly consider bees is included in 7 family groups. They are separated taxonomically by their mouthparts and wing patterns. The most common family of bees is the Apidae that includes bumblebees, carpenter bees and honey bees. Honey bees and bumble bees are the only truly social bees. Others are solitary and build nests by tunneling in the ground, in wood, or plant stems. They gather pollen and nectar to provision their nests so they can lay their eggs and assure the survival of their offspring. Bees in general are the primary pollinators in the world.

Carpenter Bees: Carpenter bees build nests in unfinished (not painted or treated) wood of a variety of tree species, including southern yellow pine, magnolia, willow, cedar, white pine, and cypress. Particularly hard hit are cypress and cedar siding. Males and nonmated females spend the winter in old nest tunnels and emerge in April. The bees feed on nectar and pollen for a period of time; after food reserves are replenished, they mate and begin nest construction. The female may start a new nest tunnel or choose to clean out and lengthen an existing tunnel. A new tunnel is usually made on the lateral face of a structural timber in a well lighted but sheltered location. The entry hole runs cross grain for about 1/2 inch then turns left or right (or both directions) with the grain. New tunnels may be 6 to 10 inches long. If old tunnels are refurbished and expanded, lengths will be considerably longer.

After the tunnel is cleaned or finished, the female provisions an area at the end with food (nectar and pollen) and deposits an egg on the food mass. A cell is formed by blocking this area with a partition made from chewed wood pulp. This procedure is repeated until there are 5 to 10 aligned cells within the tunnel. During nest building the males may buzz around or hover in front of anyone approaching the nest; however, they do not have a stinger so they cannot sting. The front of the face on the male is white, while the females' face is black. The female does have a stinger but

rarely stings. Once egg laying is completed, the adults decline and die within a short period of time.

The time required for the development of the young will vary with temperature. In general, it will take about 40 to 45 days from the time the egg is deposited until the adult bee emerges. These adults have no nest-building tendencies and, in fact, they will not mate at this time. The bees remain close to the nest tunnels feeding on various nectar and pollen sources that are in the area. They probably rest in these tunnels during the night or on cloudy days. As the temperature cools in the fall, the bees will use the tunnels as overwintering sites.



The "Bumble Bee" is a big, hairy, black and yellow bee whose size can range from 3/4 inch to 1 1/2 inch. This insect is often mistaken for a carpenter bee, which closely resembles the bumble bee in appearance. Carpenter bees have a shiny and smooth abdomen as opposed to the fuzzy abdomen seen on a bumble bee.

Bumble bees: There are over 200 types of Bumble bees in the world. Fifty different types can be found in North America. Each different species will have its own preference to types of nectar and prefers different flowers. The bumble bee is an important, beneficial insect. They pollinate plants and flowers as they forage for food. To gardeners, it is a welcome sight to see these large, flying insects carrying large loads of pollen, flying into and around their flower beds and gardens.

The most common species are 3/4 inch in length or more. Like honey bees, bumble bees live in a colony where the adults care for the young (larvae) produced by a single queen. Bumble bee nests are small compared to honey bees, as each nest contains only a few hundred individuals. Also, unlike honey bees, a bumble bee nest is annual and is used only one year and then abandoned. Bumble bees may re-appear in the same area from one year to the next but they do not reuse an old nest. Bumble bee colonies are usually underground in a deserted mouse or bird nest though they are occasionally found within wall cavities or even in a clothes drier vent.

In the spring, each new queen selects a nest site and starts a new colony. She lines the cavity with dry grass or moss and then collects pollen and nectar to produce a stored food called "bee bread." Her first brood of offspring, (5 to 20), will all be workers (daughters) who take over the colony responsibilities of nest enlargement, food gathering and storage,

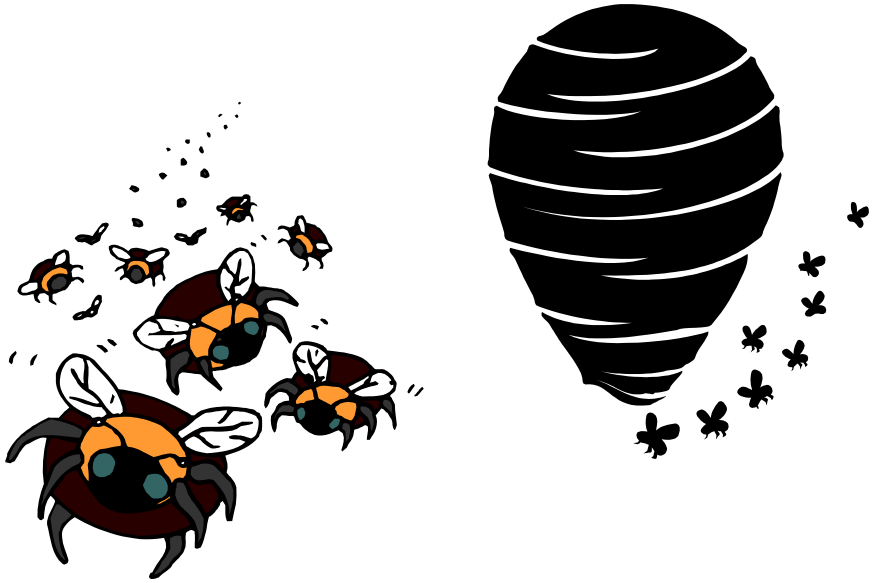
and feeding and caring for the larvae. The queen continues to lay eggs throughout the summer. By late summer, new reproductive males and females (kings and queens) are produced. These mate on the wing and the fertilized females move to hibernation sites in the shelter of loose bark, hollow trees or other dry, protected places to lie dormant through the winter. The males and workers still in the colony die with frost or the first hard freeze.

Announcements

- Camp Dates have been set for 2006. The first camp will be at Wall Doxey State Park, near Holly Springs June 18 –22, 2006. Second camp will be on July 17-21 with the final location TBA. A registration form will go out shortly after January 1.

- The x drive X:\Entomology\4-H Entomology Display boxes has pictorial examples of a 4-H Insect Collection Display Box. Extension Agents in Mississippi have access to this resource. We're also arranging to place these pictures on the WEB pages at http://msucares.com/4h_Youth/4hentomology/index.html We have boxes for sale at $30 each for those who have the need.

- Mississippi Bee Essay contest is due January 15, 2006. Title of the essay is **Honey bees in Art and Culture**. Rules for the contest may be seen at http://msucares.com/4h_Youth/4hentomology/bee_essay_contest.html



- If you are poetically inclined and would like to show it off, we will have a poetically oriented gloworm in December. Send your selection to Dr. M. Williams, Entomology Department, by December 3, 2005. If you have a favorite by someone else, send it to us with correct citation. We'll also take adult submissions.

Happy Buggin'

Michael R. Williams
Extension Entomologist