

thru the
magnifying glass

Carpenter Bee

It's a buzzing, hovering, sawdust flying, in-your-face sign of spring. Walking out on the porch to do a quick inventory, I count 10 carpenter bees. Alternately hovering and darting about, they never slow down. Bearing likeness to bumblebees and even more to giant resin bees, carpenter bees are also important pollinators.

Carpenter bees emerge in early spring; March in my part of north Alabama in recent years. As adults they have spent the winter in tunnels bored into wood. Carpenter bees are fun to watch, but they can potentially cause damage to wooden structures if allowed to nest long-term.

WOODWORKERS & CLOWNS

Woodworking and obnoxious behavior is what these bees are most famous for. Thank the females for the woodworking and the males for perceived boorishness.

The busy female bores round holes into soft wood, be it trees, houses or utility poles, but preferably man-made structures. They prefer weathered soft wood, barkless or unpainted such as cedar, cypress and pine. These holes start out 3 or 4 inches long, but can end up being 10 feet long after many years of reuse by generations of bees.

The tunnels are the hub of life for the carpenter bee which seems to be somewhere between social and solitary. The female spends much of her time preparing the tunnels for the eggs and fetching nectar and pollen. She may create a new tunnel or upgrade an existing one.

The male will act as a guard for the working female. In fact, those hovering bees are likely males on guard. They may even seem aggressive, but no cause for fear because they have no stinger and will not bite either. The female may sting, but is said to do so only if touched. Carpenter bees are not so aggressive after all.

I think carpenter bees are amusing.

The other day I watched one hover back and forth as if it was a guard pacing. Often, several bees will get into an all-out tussle, diving

at and chasing one another. (Look closely and you may see one of the chased is a bumblebee.) All this action is probably males defending territory or chasing potential mates. Males have white markings on the head, while the females' heads are black.

MAYBE MASQUERADES TOO

The busy female seems to be a multifaceted personality. This is confirmed by biologist Mike Orlove who has studied the carpenter bee. In an interview for syndicated radio program Pulse of the Planet in 2001, he revealed some of his observations,

He observed a female carpenter bee pretend to guard a nest, and then steal pollen when the queen of this tunnel left. He also found that females on occasion will don pollen on their faces, making them appear as a male. The females will then stand in for a male guard which may have left his post briefly. He theorizes that the purpose is to sting birds which have learned to eat nonstinging male carpenter bees, thus teaching them to stay away from males. This seems more like a thinking skill than an instinctual thing. In any case it is interesting.



BUSY BEES

After mating, the female goes to work on the tunnels, leaving little time for antics. She will use her jaws to excavate the wood and can do about an inch every six days. The tunnel extends straight for an inch or two and then turns 90 degrees. There is another 4-6

inches of excavation and it is along this tunnel the female will create brood cells, starting from the back.

In the brood cells, the female will make partitions into which she will insert "bee bread", a mix of nectar and pollen. Onto this, she will lay an egg and seal off each cell with chewed wood pulp. On completing her work the female will die, leaving the eggs to hatch into larvae.

Though most sources refer to the carpenter bee as solitary, and many females will singly brood, Orlove has found that they can be rather social. He has found that at times there might be eight or nine females working together to raise a brood" with one female doing all the egg laying and food gathering. The other females serve as a living thermostat. Orlove says at various times one or all of these workers will do a type of dance to maintain a constant nest temperature.

Whether singly or cooperatively produced, larvae will feed on the bee bread, progressing to the pupa stage. Within seven weeks, near the latter part of the summer, development is complete and adults have formed.

The new adults spend a few weeks in the tunnels, chewing their way

out to emerge near the latter part of summer. They have been sustained by the food supplies, but will now need to venture out and find pollen for winter storage since they will spend the winter inside the tunnels.

YOU GO FIRST. NO, YOU.

“Who goes first?” you may wonder. There doesn’t seem to be an answer. Most references say the last laid develops first, and exits first. But Orlove, who has intensively studied the carpenter bee, says the first laid, goes first. He says the one at the back of the tunnel waits for the others to mature enough so being stepped over doesn’t hurt them, and then proceeds. So, there’s both sides of that.

If you really want to find out the answer, do your own study. There are plenty of carpenter bees around. As I write, there are dozens, if not hundreds,

buzzing around my porches. Go outside, find one, gaze into those big eyes and just try to tell yourself they aren’t



cute and fascinating, though your porches may collapse in 30 years or so.

MORE INFORMATION

Kaufman Field Guide to Insects of North America, Eaton & Kaufman, 2007.

Alabama Cooperative Extension (ACES) <http://www.aces.edu/>, search term carpenter bee or publication number ANR-1302.

University of Missouri Extension, carpenter bees <http://extension.missouri.edu/publications/DisplayPub.aspx?P=g7424>

<http://bugguide.net/> Search for

carpenter bee.

-Anita Smith
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