Insect Ecology and Integrated Pest Management

Improving IPM through Ecology

This bench is habitat

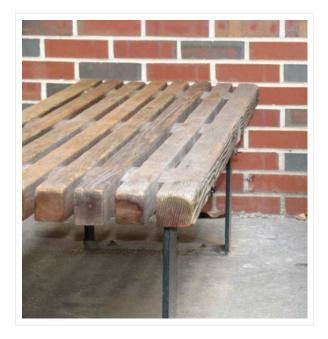
Posted on May 22, 2014

This is a guest post by our Research Associate, Elsa Youngsteadt...

A few weeks ago, while I was sitting on a bench on campus eating lunch, a female

carpenter bee startled me by flying up directly between my knees. She looked me in the eye and buzzed off. Turns out I was sitting right above the nest hole she had carved into the underside of the wooden bench. Of course, carpenter bees were patrolling just about every deck plank, bench board and fence post right then, so I didn't think much of it.

But today, I walked past that same bench to find a whole new lively scene. Taking over from the bees (whose nesting season is winding down) was a swarm of sleek, black wasps with shiny blue wings and a



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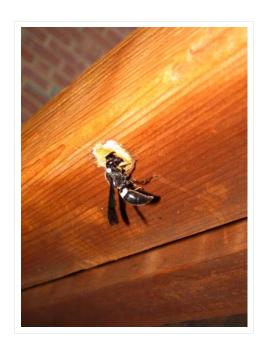
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bold, creamy markings. They were *Monobia quadridens*, a member of the group called mason wasps.

Although I've found them at flowers before, I'd never seen a convention like this (which is not to say it's rare, just that I hadn't seen it). Wasps were swooping in and hovering around the bench, pairs dropping to the ground to stagger around awkwardly while mating or

deciding not to mate. (When the decision is "yes," they can stick with it for a full 30 minutes.) Adding to the scene, I of course lay down on the ground, too, to peer at the underside of the bench, where wasps were ducking in and out of old carpenterbee holes.

M. quadridens is, in fact, well known for nesting in abandoned bee holes, and any other convenient cavity will do, too. (If you happen to put out nesting blocks for orchard bees, you may get some Monobia, too; they'll use tunnels ½" to ½" in diameter.) They fill these holes with small caterpillars, which they paralyze by stinging. When the wasp eggs hatch, the Monobia larvae eat the hapless caterpillars.



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Although my bench was a *Monobia*

hotspot—I could see five or six at any moment—these wasps don't live in social colonies like the more familiar yellowjackets or paper wasps. When it's time to lay eggs and stockpile food for the youngsters, it's every *Monobia* for herself.

And sometimes, her efforts may go to waste. The entrance of another old bee hole under the bench was clogged with ant traffic. I suspect that rather than living there, the ants were raiding whatever the resident bee or wasp had originally put there, perhaps the caterpillars. I didn't catch the ants carrying anything I could actually identify, though, so I'll stop there before they accuse me of libel.

In a 1934 note published in the entomology journal Psyche, Phil Rau noted of M.

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quadridens that "the females ... have a functional sting, while male wasps are devoid of stings, but often the latter are not devoid of the desire to sting." Male M. quadridens fulfill this desire by poking rather than actually stinging. Their rear ends are tipped with a couple of stout bristles, strong enough to break one's skin. They have no venom to inject, so the pain is fleeting, but often enough to get a male wasp out of whatever sticky situation made him wish he had a stinger.

Although I was all up in these wasps' business, and a couple of them came and hovered in my face in return, nobody really threatened to sting me. If they'd been paper wasps, I would have been zapped for sure, so I'd rank them on the



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not-very-threatening end of the wasp spectrum. In fact, given their fashionable looks and their inclination to clean up pesty caterpillars, I hope they someday move into my very own porch. The carpenter-bee holes are waiting!

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