

University of Illinois' Bugscope allows study of microscopic insects

By VALERIE WELLS - H&R
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DECATUR - At first blush, the sight of microscopic mites attached to the eye of an earwig would make most people cringe. But really, the earwig doesn't mind.

"It's a symbiotic relationship," explained Dorothy Damery, science teacher at Lutheran School Association. "The mites remove bacteria."

And, much like the mites that live in human eyelashes - yes, they do - the earwig isn't even aware of them.

Thanks to the Bugscope housed in the Beckman Institute at the University of Illinois at Urbana-Champaign, students all over Illinois and almost anywhere else can peek at extreme close-up views of the insect world via their school computer labs - for free.

Bugscope is an electron scanning microscope that can magnify thousands upon thousands of times. The team at the institute sets up preset views of creatures provided by the school, and the classroom teacher from the computer station at his or her own school can operate the microscope for other views.

Students at LSA, watching the images projected on a screen in the front of the computer lab, could use their own computer stations to ask questions of the scientists at the center in Urbana.

That's how the question of mites in human eyelashes arose. A student asked Scott Robinson, one of the scientists, what mites are, and his response included the answer, as well as one of his frequent flashes of humor.

"Mascara probably annoys them," he typed.

Talking with the students is fun, Robinson said, and the whole purpose of Bugscope is to get kids interested in science.

"We can do that by having them send us insects, and insects are really cool," he said. "You don't need to do a lot of work to process them; they look nice at high magnification, and they have a creepy factor to them."

The microscope cost about half a million dollars, Robinson said, and its main function is for

research done at the university by graduate and post-doctoral students, as well as industry. One project under way is research on a thin silicon that may someday be made into roll-up, portable television monitors.

But for eight years, since Robinson began work at the institute, the Bugscope has doubled as a tool to reach out to kids in kindergarten through 12th grade. Robinson and his usual partner in Bugscope activities, Daniel Weber, have held sessions for students as far away as Australia and Ireland, though most are in the United States.

Damery said she had assigned her eighth-grade science classes to make an insect collection earlier in the semester and had moved on to other topics, but when this chance came up, they took a break from their current study to participate.

"They get more of a different feel for insects," Damery said. "Just looking at things close up gives you a whole different world and a whole new idea of what's there. That's what I really wanted them to see."

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