



RESEARCH

The Latest Buzz

It's not good news. York researchers have worries about the health of our most important pollinators – bees.

This collection of orchid bees might look healthy, but in reality the number capable of breeding is minuscule. Most will die without creating a replacement.

York biology Professor Laurence Packer, who specializes in bee research, and doctoral biology candidate Amro Zayed are using genetic methods to track how apparently healthy bee populations may, in fact, be on the brink of collapse. Genetic problems – likely due to environmental stress – are rendering many male bees sterile. Packer calls it “mutational meltdown”.

“Just because there appear to be a lot of bees in one spot on one given day doesn’t mean much,” says Packer. “Numbers are no indication of healthy, sustainable populations. Bees move around, populations fluctuate. One year you could have thousands and the next, none.”

The genetic methods Packer and Zayed used demonstrated that the number of effectively reproducing bees in the picture at left is approximately 15. They believe their methods can reveal information about the reproductive health of all bee populations and predict their future success or demise, says Zayed.

Zayed and Packer’s research on orchid bees – funded by NSERC and the American Orchid Society, and published in the prestigious *Proceedings of the Royal Society* – may one day help conservationists find ways to protect nature’s premier insect workers (worth an estimated \$782 million to Canadian agriculture in 2001).

“Without bees there would be no apples, no plums, no showy wildflowers. The world as we know it would look totally different,” says Packer. “There’d be no coffee,” adds Zayed. That’s enough to keep anyone awake. ■