

Insect May Make Moves to Survive the Harvest

By HENRY FOUNTAIN

One thing about evolution — you never know what’s going to influence it. Take the European corn borer, for instance. Researchers have just made a strong case that a certain aspect of its behavior has evolved because of human harvesting of corn.

The corn borer, *Ostrinia nubilalis*, is a pest caterpillar that spends spring and summer feeding on its host corn stalk before spinning a cocoon for the winter. It is almost identical to a related species, *O. scapularis* — in fact, until recently the two were thought to be one. But *O. scapularis*’s host plant is not corn, but a weed known as mugwort.

In a [paper](#) in The Proceedings of the Royal Society B: Biological Sciences, Vincent Calcagno, a biologist now at [McGill University](#), and colleagues show that, behaviorally, that makes all the difference in the world. For mugwort is neither harvested nor grazed, while corn has been harvested for centuries.

In harvesting, either mechanically or by hand, the stalks are cut off some height — often 6 to 15 inches — above the ground. Any corn borers above that height will surely not survive when the stalks are shredded, burned or fed to animals.

Through field and laboratory tests, the researchers discovered that before it stops eating and spins its cocoon, the corn borer travels down the stalk, usually reaching a height at which it is safe. *O. scapularis* does not exhibit this descending behavior, called geotaxis.

Dr. Calcagno said the likeliest explanation for the behavior is the selection pressure of harvesting — over generations, those caterpillars that did not descend, or did not go far enough, did not survive. “There could be other reasons that explain the tendency to move down, but we have no evidence of what those reasons could be,” he said. This harvesting-induced selection, he added, could be widespread in other pests.