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Assunto: Bug sex: How foul weather can ruin the mood

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Can the sexual behavior of insects predict inclement weather?

According to a study published recently in the journal PLOS One, nothing quite ruins the mood of amorous bugs like the hint of foul weather. Or, to be more precise, the steady drop in barometric pressure that accompanies an approaching storm.

Though many insects have evolved ways of coping with, or even taking advantage of, moderate rainfall and wind, a pummeling rainstorm can spell doom for the fragile creatures.

Because of this, entomologists in Brazil and Canada wondered whether insects could sense the approach of bad weather and modify their mating behavior in ways that would improve their odds of survival.

For instance, when a female potato aphid feels like calling to a male suitor, she crawls to the very edge of a potato leaf, raises her abdomen and third pair of legs and lets loose with a blast of come-hither pheromones.

Yet, if the female aphid does this during a bombardment of water droplets, or in heavy wind, she's likely to be knocked from her perch with potentially fatal consequences.

In a series of lab experiments involving potato aphids, the true armyworm moth and cucurbit beetles, researchers lowered the surrounding air pressure and cast a voyeuristic, if scientific, eye on the critters.

As the pressure fell, female moths and aphids reduced their calling, or pheromone releasing behavior, by more than 70%.

Meanwhile, the male beetles had a very different response to falling pressure.

Though they usually engage in pre-copulatory behaviors like antenna touching at stable air pressure, more than half of them dispensed with such formalities when pressure dropped and immediately mounted the females.

Lead study author Ana Cristina Pellegrino, an entomologist at Brazil's University of Sao Paolo, and her colleagues concluded that dropping pressure significantly affected the sexual behavior of the insects, but in different ways.

Study authors, however, said they did not know how the insects were able to determine the drop in pressure to begin with, and that this mechanism was a topic worthy of further study.

Possible explanations include the existence of tiny sensory hairs that can detect faint air movements, or bubbles of air within an insect's gut that alert it to rising or falling air pressure, according to study authors.

Fonte: Monte Morin