Pesticides Suspected to Cause Butterfly Death in Philly Suburbs

By Isa Betancourt  
  
A mosquito control treatment may have caused the death of a butterfly in the Philadelphia suburbs. On the morning of July 29th, 2019, Laura Betancourt of Bala Cynwyd found a dying butterfly on the tree lawn of her neighbor’s house two days after the yard had been sprayed with chemicals to kill mosquitos.

Betancourt was on her way to her car when she saw the butterfly laying on the top of the blades of grass. “When I went to look at this beautiful black and shiny blue butterfly,” says Betancourt, “it didn’t fly away as I would normally expect. Then when I went to pick it up, it fluttered but then just fell to the ground. It couldn’t fly.” The butterfly died later that day.

Betancourt thinks that chemicals used to treat the property for mosquitos may have caused the butterfly’s death. The day prior, her son smelled chemicals in the wind when he was in the backyard. Then, she noticed a lawncare company sign with a picture of a mosquito in the neighbor’s front yard, suggesting that the lawncare company offers mosquito control services.

The neighbors confirmed that the property where the dead butterfly was found was treated for mosquitos by Landrum Landscaping. To try to determine what chemicals were used, Landrum Landscaping was called for comment. The company has not yet has responded to the inquiry.

Walking around the Bala Cynwyd neighborhood, mosquito control lawn signs are not uncommon. Residents in the area want to enjoy their outdoor spaces without being bothered by the pesky bloodsucking flies. So, they are hire the services of commercial mosquito control companies.

According to the New Jersey Mosquito Control Association, commercial companies most commonly use the active chemical bifenthrin, a pyrethroid insecticide, for mosquito control. This chemical disrupts the nervous system of insects when they come into contact with it on yard surfaces. The insects become weak and eventually die.

Companies selling insecticides that contain bifenthrin advertise that the chemical is effective at controlling ants, termites, scorpions, biting flies, bedbugs, cockroaches, gnats, fleas, moths, pillbugs, spider mites, spiders, stink bugs, ticks, wasps, and more arthropods that some people find a nuisance. However, that list of organisms that bifenthrin harms is not complete. For example, bifenthrin chemical safety documents specifically warn that the product is extremely toxic to fish, aquatic invertebrates, and bees. Thus, two insects beloved by human culture are affected by bifenthrin; Dragonflies are aquatic invertebrates as nymphs and butterflies are very closely related to moths, which are in the advertised list. “Many people don’t realize that pyrethroids affect dragonflies and butterflies too,” remarks Jon Gelhaus, curator of entomology at the Academy of Natural Sciences.

Gelhaus identified the butterfly as a red-spotted purple. He says, “The red-spotted purple is known to land on the ground to display its brilliant wing patterns to mates and predators, or to look for fermenting fruit, dung, or mud from which it obtains nutrients. Therefore, it is likely that the butterfly came into contact with the chemicals.“   
  
Taking a look at an image taken of the butterfly, Gelhaus says that it does not look like the butterfly was struggling because of old age. “Its wings are well intact,” he says, “Typically butterfly wings lose scales and get worn down and torn across the adult butterfly’s life span.”

How common is it to come across dead butterflies that have died of old age or even other causes? Betancourt says that in her 25 years of living and gardening in the neighborhood, she has never come across a dead or struggling butterfly before this one. Nancy Milani, an avid local gardener for 8 years in the neighborhood, also has never encountered a dead or struggling butterfly.

Over the past year, the news filled with discussions about a global decline in insects due to habitat loss, climate change, and pesticide use. The decline is alarming because insects serve many beneficial roles in our environment. Butterflies and bees pollinate flowers and dragonflies eat other insects including mosquitos.

For those who want to control mosquito populations without affecting other insects, there are viable options that do not involve pesticides. Mosquito larvae develop in standing water. The *Aedes aegypti* species even specializes in developing in standing water that collects in man-made containers. The Center for Disease Control recommends removing standing water at least once a week as an effective way to control mosquitos.

