We shouldn't fear the big, bad wolf spider

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Professor Uetz with a specimen.

Longtime University of Cincinnati professor George Uetz studies how the environment influences the evolution of behavior through researching animal behavior and ecology. Uetz's research focuses on spiders, in particular wolf spiders and colonial web-building spiders.

Although many psychologists disagree on whether human fear of spiders is innate or learned, Uetz argues that there is nothing to fear about these creatures. He explains that this fear is mostly perpetuated as a consequence of misinformation, especially nowadays via the Internet.

"Spiders are mostly harmless and bite people far less frequently than

suspected," Uetz explained. "Indeed, one study showed more than 80 percent of physician-diagnosed 'Brown Recluse spider bites' are likely something else."

Uetz believes that researching and understanding the natural world can help us achieve advances in areas that contribute to economic growth, such as human health and medicine, environmental quality and conservation of natural resources, agriculture and forestry.

Spiders not only play a huge role in nature, but also can also help contribute to a number of economic enterprises.

For example, there is spider silk that is stronger than steel and spider venom that is used in the pharmaceutical industry. Additionally, there are spiders used as a biological control of pests in agricultural crops as well as spider-inspired biomimetic robotics.

Male schizocosa ocreata

The National Science Foundation helps fund Uetz's most recent research, which focuses on the Brush-legged wolf spider, Schizocosa ocreata. In particular, he researches how these spiders communicate using different sensory modes: visual, vibratory and chemical.

In his research, Uetz also examines how aspects of the physical environment influence the evolution of signals sent by male spiders and received by female spiders. Some of the observed characteristics include moisture in the environment, the light spectrum and the structure of substrate.

"In the case of the wolf spiders I work on," Uetz said, "they are very abundant in deciduous forests and are an important component of the forest floor in local woods."

Another type of wolf spider was recently found in Adams County at a nature preserve run by the Cincinnati Museum Center and the Nature Conservancy. The Hogna carolinensis, or the Carolina wolf spider, is the biggest wolf spider in America and had not been seen in Ohio for more than 60 years. Because the two types of spiders occur in the same area, it is likely that the Carolina wolf spider would prey upon the smaller Schizocosa ocreata.

Throughout his time at UC, Uetz has been sharing his knowledge regarding these spiders with the 39 graduate and 150 undergraduate students who have participated in his research over the years.

Provided by University of Cincinnati