

Forensic Scientists Are Testing Whether Honey Bees Can Help Locate Human Bodies

Researchers think they can find evidence of volatile organic compounds from a decomposing body in honey

Margaret Osborne, Daily Correspondent, April 4, 2022

Researchers at George Mason University are designing an experiment to test whether honey collected from bees foraging near human corpses will contain evidence of those remains.

Forensic scientists may soon have millions of tiny crime scene investigators helping recover bodies of missing persons: honey bees. Researchers at George Mason University are designing an experiment to test whether honey collected from bees foraging near human corpses will contain evidence of those remains.

"We thought, well, if bees are feeding on flowering plants that are near decomposing bodies, would the chemical compounds of human decomposition be part of the proteins that the bees ingest?" Anthony Falsetti, a professor in the Forensic Science Program, tells *Newsweek's* Shira Li Bartov. "And if they ingest it, will they deposit it in their honey?"

University researchers and students plan to bury donated human remains in a plot of land in Manassas, known as the "body farm." They'll work with law enforcement officials to copy the graves killers dig in real cases, per *Newsweek*. The researchers will also plant scented flowers in the area, per the publication.

"Some people may...think, 'oh, that really sounds gross,' but this is exciting science," Mary Ellen O'Toole, Forensic Science Program director and former FBI agent, tells *WTVR's* Maya Rodriguez.

Proteins in honey contain biochemical information that scientists already use to measure heavy metals, air pollutants and pesticides, writes James Baron for *The Free Lance-Star*. Similarly, the researchers hypothesize that they can detect evidence of volatile organic compounds (VOCs) from a decomposing body, per *WTVR*.

"We know that bees fly within probably no more than a five-mile radius of their beehive," O'Toole tells the outlet. "So, that is incredibly helpful to investigators that have to go out on a case."

Eventually, the research group hopes the numerous beehives owned by hobby apiarists will help solve murder cases. Honey samples could be collected and analyzed within an area officials believe may contain a body, helping them narrow down where remains might be found.

"We can use existing beehives and the sampling is [non invasive], it's just a small spoon of honey," Alessandra Luchini, a professor in the university's Center for Applied Proteomics and Molecular Medicine, tells *The Free Lance-Star*. "Give us a spoon of honey and you could help solve the biggest crime of the century."

O'Toole says to *Newsweek* that investigating crime scenes outside can be difficult because bodies are exposed to things like bugs, the elements and predators, all of which affect how they decompose. But locating a body earlier helps investigators begin their analysis of what happened sooner, which can help them identify the killer.

"For 28 years, I was an agent," O'Toole says to *WTVR*. "I spent a lot of time talking to the Green River Killer, which is our most prolific serial killer in the United States. He left his victims outside. When I think about that, it really becomes crystal clear to me just how valuable this research is."

Margaret Osborne

Margaret Osborne is a freelance journalist based in the southwestern U.S. Her work has appeared in the *Sag Harbor Express* and has aired on *WSHU Public Radio*.

<https://www.smithsonianmag.com/smart-news/scientists-are-testing-whether-honey-bees-can-help-locate-human-bodies-180979845/>