

# Study rules out spiders as common cause of bacterial infections in humans

January 6 2015, by Iqbal Pittalwala

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A skin infection. Credit: ARNE BORSUM, WIKIMEDIA COMMONS.

Can spiders be carriers of human pathogens? Can they provoke an infection through a break in the skin?

A team of scientists, led by an entomologist at the University of California, Riverside, has data-mined the history of publications on spider envenomations to conclude that the evidence for spider-vectored [infection](#) is scanty. Further, the researchers note that the mere presence of bacteria on spider fangs or mouthparts does not establish spiders as vectors for these bacteria.

Study results appear as a letter to the editor in the January 2015 issue of *Toxicon*.

"Although spider bite may be an attractive and tenable causative agent of a [bacterial infection](#), the data show this is highly improbable," said Richard S. Vetter, the lead author of the study and a former staff research associate in the UC Riverside Department of Entomology, now retired. "Any implied causative association between [skin infections](#) and spider bites should be considered suspect. The medical community should not scapegoat spiders for bacterial infections. When examining reports of thousands of spider bites of many species worldwide, we found almost no mention of infection associated with the arachnid-inflicted injury."

Vetter explained that an important advancement in spider bite diagnosis in recent years is the realization that bacterial infections have been commonly misattributed as spider envenomation by both physicians and patients.

"'Spider bite' is used as a default diagnosis despite lack of supporting evidence," he said. "In a study published three years ago, of 182 Southern Californian patients presenting with complaint of spider bite, less than 4 percent had spider envenomations, while about 86 percent had skin infections."

He mentioned that the only credible report of spider bite leading to

infection that his research team is aware of is an episode involving an Australian golden silk spider, a very large orbweaver.

"It resulted in colonization by a bacterium rarely found in humans," he said. "The bite led to a pus-filled lesion that persisted more than two months."

Vetter's advice to people concerned with skin infections is that both the [medical community](#) and the general public should stop blaming spiders as the cause of bacterial infections.

"This medical platitude is not supported by the history of spider bite data and could lead to misdiagnosed patients who then have an overzealous reaction that could, in turn, lead to the unwarranted development of arachnophobia in bite victims, possibly then requiring psychological desensitization to [spiders](#) or excessive use of pesticides in living spaces," he said.

**More information:** Richard S. Vetter, David L. Swanson, Scott A. Weinstein, Julian White, "Do spiders vector bacteria during bites? The evidence indicates otherwise," *Toxicon*, Volume 93, January 2015, Pages 171-174, ISSN 0041-0101, [dx.doi.org/10.1016/j.toxicon.2014.11.229](https://doi.org/10.1016/j.toxicon.2014.11.229).

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