(Photo By Joe McFarland)

The brown recluse is known everywhere. But it doesn't live everywhere. One Illinois researcher is documenting the range of one of the most notorious spiders in Illinois.

Making Spider Sense

Story By Joe McFarland
Photos By Adele Hodde

One quiet evening after working on a violin in his studio, northeastern Illinois luthier Jay Damm glanced up and noticed a tiny distraction in his light source.

There, crumpled in a post-mortem silhouette, was the familiar outline of a brown recluse spider—also known as the violin spider. Setting aside his tools, Damm climbed onto a chair and unscrewed the glass fixture to remove the dried remains.

"I'd never seen one in northern Illinois before," the outdoorsman observed. "I guess it's appropriate that the first one I see shows up in a violin shop."

The violin spider, a.k.a brown recluse—*Loxosceles reclusa*—had been a common sight for Damm when he lived downstate during the 80s. During his college days in southern Illinois, Damm routinely encountered the infamous spiders, whose venom can cause necrotic lesions for unfortunate victims.

But when he returned to northern Illinois, eventually opening his luthier business near Chicago, the namesake spiders vanished from sight.

According to one researcher, the known distribution of brown recluse spiders in Illinois seems to match such observations.

"The middle of Illinois tends to be the northernmost limit of their range," explained Ken Cramer, a Monmouth College professor of biology who's been studying the brown recluse since 2002. Cramer noticed that relatively little was known about the Illinois distribution of this otherwise high-profile spi-

There is still much to learn about brown recluse spiders, according to Monmouth College researcher Kenneth Cramer. The researcher is documenting the Illinois distribution of these distinctively marked spiders.

der, and so he decided to undertake a study himself.

"For a spider that's so well documented, especially within the medical community, there's a lot that isn't known about the brown recluse," Cramer explained. "There's just a handful of researchers doing specialty work (with the medical aspect). But there's not a lot of people doing studies in the wild."

Cramer, along with a spider expert from the University of California, began the Bi-State Brown Recluse Project, an ongoing study whose mission is to web together the facts about brown recluse spiders in Illinois and Iowa. Sorting out fact from fiction, however, becomes problematic.

The problem is, everyone has a story to tell about spiders. That's one of the problems. Determining the distribution of spiders based on reported sightings or suspected bite victims—which is what everybody has done for years unofficially—is unreliable and unscientific, Cramer contended.

"Diabetic ulcers and staph infections are commonly misdiagnosed as spider bites," Cramer said. "And when people report multiple bites...those rarely come from a brown recluse.

"It's highly unlikely you're going to be bitten by a brown recluse," the researcher pointed out. "It's even more unlikely you'll be bitten twice."

Since so few of us can positively identify a brown recluse spider, Cramer offers a list of facts about the spider on his website (see address at the end of this story).

He encourages people to send him brown recluse spiders for study, especially specimens from northern Illinois (anyone doing so should first verify their identification through his website). Since the project receives no official public funding, Cramer relies on this grassroots cooperation to further his understanding of the spider everybody knows but doesn't.

Some of the questions the study poses: Where do brown recluse spiders live in Illinois? What do they eat? How much cold can they endure? Does temperature limit their range?

Under controlled environments, Cramer already determined brown recluse spiders can survive for extensive periods without even a drop of water. Future tests will determine if the spiders can locate food by smell, and whether live or dead prey makes a difference.

What's not entirely clear is why the spiders haven't become well established in the northern parts of the state.

"They don't 'balloon' webs as a means of dispersal," Cramer pointed out, describing the ingenious method of transportation employed by some spider species, where a filamentous "kite" of web carries vagabond arachnids miles from home on the whims of air current.

Preserved for study, dozens of brown recluse spiders from various spots in Illinois await laboratory examination.

A brown recluse web, by comparison, is little more than a reckless arrangement of inconsequential threads in a corner; no prey is caught in its threads, and the spider merely uses the strands for climbing around its hiding place.

Since brown recluse spiders relocate themselves on foot, cold weather might limit the northern range of this species. In the wild, spiders must endure the winter cold. It's therefore possible northern Illinois winters are cold enough to prohibit this spider from establishing itself beyond the occasional indoor hitchhiker—those which might arrive in moving boxes or almost anything else shipped from a southern region.

Since starting the project three years ago, Cramer has received inquiries and samples from hundreds of nervous individuals, many of them simply wanting to know if the spider they squashed in their living room was a potential threat.

"I get a lot of wolf spiders and jumping spiders," Cramer said. "Wolf spiders in particular, because they're big, they're fast, they're hairy. A brown recluse doesn't look nearly as threatening as a wolf spider."

One of the ironies about the presence of brown recluse spiders in homes is the fact most homes in brown recluse country have at least a few of the spiders present—sometimes hundreds of them—but bites to humans are rare. A home in Kansas documented to have some 2,000 brown recluse spiders within a span of 6 months proved harmless for spider-human cohabitation.

"Nobody in the house was bitten," the researcher reported.

Does your house have brown recluse spiders? If you live in southern Illinois, the spiders almost certainly live in or around your house someplace. But the risk of a bite is typically quite minimal, especially if one uses caution when grabbing dusty boxes in a shed, or working in places where the spiders might be hiding.

And if you do find a brown recluse—or think you've got one—Cramer would like to add it to his collection.

Brown recluse webs aren't used for catching prey; they're actually random threads, which the spider uses to move around its living area (in this case, a box, upper right). Cramer examines a typical-size brown recluse (below).

Information about how to identify the spiders, as well as how to ship them to Cramer, can be obtained at: www.department.monm.edu/biology/recluse-project/identify.htm.