# **Ogre-faced spiders have great hearing—without ears**

WHOEVER NAMED THE ogre-faced spider was clearly impressed with its gargantuan eyes, monster-like orbs that spot prey in the dark.

As it turns out, this nocturnal arachnid is notable for another sense entirely: Hearing. A new study says the spider can hear a surprising range of sounds from more than six feet away, thanks to sensory organs—on its legs.

Native to the U.S. Southeast, ogre-faced [spiders](https://www.nationalgeographic.com/animals/invertebrates/group/spiders/) hunt by dangling from vegetation and then flipping backward to capture airborne prey in a sticky net.

Curious about how the spiders can accomplish such a nimble feat, [Jay Stafstrom](https://jaystafstrom.com/), a postdoctoral researcher in neurobiology at Cornell University, previously ran an experiment in which he covered the spiders’ eyes with a piece of silicone. Intriguingly, the blindfolded predators could still catch flying [insects](https://www.nationalgeographic.com/animals/insects/#:~:text=About%2520Insects,or%2520two%2520pairs%2520of%2520wings.), suggesting they were actually hearing their quarry.

Spiders don’t have ears, in the conventional sense. But increasing evidence shows that some spiders—such as jumping spiders, fishing spiders, and now ogre-faced spiders—can hear via nerve-based receptors on their legs. The receptors function like ears, picking up soundwaves and communicating the impulses to the brain. Spiders’ ability to feel the vibrations of prey tiptoeing on their webs is well known, but it’s not considered hearing. ([Read how jumping spiders can see the moon](https://www.nationalgeographic.com/news/2017/06/jumping-spiders-moon-stars-astronomy/).)

What’s so impressive about ogre-faced spiders is *how well* they can hear, says Stafstrom, whose study was published today [in the journal *Current Biology*](https://www.cell.com/current-biology/fulltext/S0960-9822%2820%2931418-4). Unlike some species (such as jumping spiders) that can’t hear high-frequency sounds, ogre-faced spiders can detect both the low-frequency sounds of insect wingbeats and the high-frequency chirps of birds, their main predators, Stafstrom found.

Discovering such advanced hearing in such a simple creature could help scientists learn more about how the sense evolved, says [Sen Sivalinghem](https://scholar.google.com/citations?user=w2maGe4AAAAJ&hl=en), a sensory biologist at the University of Toronto, who wasn’t involved in the study.

“Understanding how sensory information is processed in the brains of relatively less complex animals with fewer neurons—and how this affects the behaviors and decisions organisms make—will provide insights into processes and mechanisms of all brains,” he says. “Including ours.”