How can spiders locate their prey?

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A study published today by Dr. Beth Mortimer and colleagues at the Department of Zoology and University Carlos III of Madrid reveals that orb weaving spiders can compare 3-D vibrational inputs into their 8 legs from the web to locate prey.

Dr. Mortimer found that as vibrations spread from prey through a spider's orb web, the information on prey location becomes available by

comparing 3-D motion across the spiders' eight legs.

Using computer models of orb webs, the researchers investigated whether web vibration contains information on the location of a vibration source for spiders that directly and remotely monitor web vibration.

They found that comparisons of 3-D vibration magnitude across eight legs (direct monitoring) allowed them to determine vibration source distance and direction, which was not possible with a remote monitoring strategy.

The researchers concluded that specific web features which are under the control of spiders that promote the transfer of localization information.

More information: B. Mortimer et al. Decoding the locational information in the orb web vibrations of Araneus diadematus and Zygiella x-notata, *Journal of The Royal Society Interface* (2019). DOI: 10.1098/rsif.2019.0201

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