

Animals

Size Matters to Spiders: Smaller Males Have Advantages



**By Karen Rowan, Life's Little Mysteries Managing Editor
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Male spiders can be tens of times smaller and weigh one hundredth of what their female counterparts weigh, and new research shows that these size differences may be in part due to a spider behavior called bridging.

Bridging is a means of transportation for spiders living in the trees and other vegetation of forests and meadows. In bridging, a spider casts a strand of its silk into the wind, and the silk is carried aloft to a neighboring plant. The spider then pulls the strand taut and crawls upside-down along the strand to its new turf, where it may find a willing mate or tasty prey. [Image: A spider engaged in bridging.]

In a new study, researchers led by Guadalupe Corcobado, a doctoral student at the Spanish National Research Council, found that bridging is much easier for the tiniest of male spiders than for their slightly larger counterparts. The researchers concluded that the advantages conferred on a small male that is efficient at bridging — such as mating with more females — could have driven the evolution of male spiders toward smaller sizes.

Spider setup

In the work, the scientists placed spiders on a stand that was about one foot (30 centimeters) away from a plant. To recreate a breezy day in the forest, they placed a fan about 10 feet (3 meters) away from the stand, on the side opposite the plant. They tested male and female spiders belonging to 13 species collected from all over Spain, including a less-poisonous relative of the black widow spiders found in America.

"We used spider species in which both females and males are tiny, and species in which females are giant, but males are small," said Jordi Moya-Larano, a tenured scientist at the Spanish National Research

Council who worked on the study.

They found that smaller spiders were more likely than larger spiders to send their silk bridges to the plant and make the journey across to a new home.

"Size matters," Moya-Larano said. "Smaller individuals had a higher propensity to bridge, whether male or female."