

## Ants are more than just convenience food to young spiders

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Euryopis episinoides. Credit: Stano Pekár

Harvester ants are more than just a convenient snack for the southern European spider, *Euryopis episinoides*. The young spiderlings innately have a nose for these ants, report Stano Pekár and Manuel Cárdenas of the Masaryk University in the Czech Republic in an article in *The Science of Nature - Naturwissenschaften*.



*Euryopis episinoides* is a tiny, 3-mm-long spider that only catches ants in particular members of the Messor group of which there are more than 100 species. Conveniently laying her egg sacks close to such ant nests is about as much parental care as a female *Euryopis episinoides* spider gives to her offspring. Once hatched, the spiderlings fend for themselves. This includes recognizing and catching prey, all on their own.

The Czech researchers wanted to find out if the *Euryopis episinoides* spiderlings' hunting activities are driven by convenience or truly by an innate preference for harvester ants.

They tested how newly hatched spiderlings that had not yet gone on the hunt reacted to the chemical cues left by three types of prey: harvester ants, fruit flies and Nylander ants. In one out of every two instances (47 percent), the inexperienced spiderlings assumed a hunting position in front of a paper strip carrying the smell of harvester ants - even though they had never before had the slightest whiff of these types of ants.

The researchers also tested the reaction of more experienced spiderlings that had been raised on only one type of prey: again either harvester ants, fruit flies or Nylander ants. They found that food imprinting changed the spiderlings' innate food preference. This was because the spiderlings more often than not chose the type of prey on which they were raised rather than harvester ants. In another twist, the spiders used in the experiment fared better healthwise when they ate ants rather than <u>fruit flies</u>.

"Our findings suggest that prey preference is genetically based but also affected by the experience with the first meal," says Pekár. "Such an innate preference enables *Euryopis episinoides* spiderlings to rapidly gain information about prey and to successfully locate their preferred prey on their own."



"Innate <u>preference</u> is beneficial as it increases efficiency in <u>prey</u> capture," adds Cárdenas. "It is, however, important that spiderlings hatch near to a place of high ant occurrence, such as ant paths."

**More information:** Pekár, S. & Cárdenas. M. (2015). Innate prey preference overriden by familiarization with detrimental prey in a specialised myrmecophagous predator, *The Science of Nature - Naturwissenschaften*. DOI: 10.1007/s00114-015-1257-8

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