

First supper is a life changer for lizards

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the lizards' reproductive success two years later in a surprising way.

The findings demonstrate something very important: fleeting moments in time really can change the lives of individuals and the evolutionary paths of populations in a profound manner.

"A mere detail in life can make all the difference for the fate of individuals," says Manuel Massot of Université Pierre et Marie Curie. "Consequently, minor [environmental variations](#) can also influence evolution."

Massot and his colleague Pedro Aragón say they expect this kind of disproportionate response to small events, which they call "[phenotypic resonance](#)," to be more common early in life.

The researchers studied the lizard *Zootoca vivipara*. The species is a live-bearing lizard, meaning it doesn't lay [eggs](#) like most [lizards](#) do. Once the lizards are born, they are on their own. Their parents are no help to them when it comes to catching their first live insect or spider for dinner.

"The first meal of life is a great challenge for them, and it is for this reason that we expected that a single meal can condition a good start in life," Massot says.



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Massot and Aragón experimentally manipulated the early experiences of the lizards by capturing pregnant females and bringing them back to the lab to give birth. The researchers provided half of the lizards with an early meal, while the others had to find their first meal in nature. They then released the lizards back out into the national park where they came from, recapturing them over a period of two years to see how they fared in the wild.

The data show that this single meal had a significant and long-lasting impact. Lizards that had been fed were less likely to pick up and move. Fed lizards seemed to be harder to catch and were therefore less often recaptured by researchers. Interestingly, lizards that did not eat early in life gave birth to larger litters two years later.



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The researchers say evolutionary biologists in particular should take note: a minor change may dramatically alter the lives of individuals. And those changes can push populations and species in directions that

classical natural selection wouldn't necessarily predict.

More information: *Current Biology*, Massot et al.: "Phenotypic Resonance from a Single Meal in an Insectivorous Lizard."
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