

Jittery crickets

A MOTHER'S care sometimes knows no bounds. It turns out that crickets manage to forewarn their offspring of lurking spiders, despite the small matter of never actually meeting them.

Jonathan Storm, a behavioural ecologist now at the University of South Carolina Upstate, in Spartanburg, briefly exposed lab-grown female crickets to wolf spiders whose fangs had been immobilised with wax, then studied the behaviour of their subsequent offspring.

He found that their offspring remained motionless for longer in the presence of spider silk or droppings than the offspring of mothers that had not been exposed to spiders. Staying still is one of the ways that crickets avoid becoming spider food. Exposing the eggs or juvenile crickets

themselves to spider cues did not alter their behaviour, suggesting the mothers had influenced this aspect of their young's behaviour during the egg's production.

The maternal heads-up was effective: "forewarned" crickets also knew to make use of a crack in their cage to hide from spiders. They survived three times longer in the presence of spiders than the offspring of naive mothers, on average.

Wild-caught crickets from spider-rich habitats also produce more cautious offspring than mothers from spider-poor habitats, Storm found.

He does not know whether the mother's warning is transmitted to the egg via maternal hormones or some other mechanism.

New Scientist, 2010

Tekst 9 Jittery crickets

- 1p 40 Which of the following hypotheses did Jonathan Storm hope to verify, judging from text 9?
- A A fear of spiders makes female crickets more protective of their offspring.
 - B Experience with spiders causes female crickets to instil a fear of spiders into their young.
 - C Young crickets are more alert to spiders when their mothers give off warning signals.
 - D Young crickets' behaviour indicates that they are aware of spiders in the vicinity.

Bronvermelding

Een opsomming van de in dit examen gebruikte bronnen, zoals teksten en afbeeldingen, is te vinden in het bij dit examen behorende correctievoorschrift, dat na afloop van het examen wordt gepubliceerd.