

LOCUSTS FEEL THE HEAT

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LOOKS LIKE THOSE OVER-ACHIEVING 16-HOUR A DAY LOCUSTS JUST CAN'T STAND THE HEAT!

Locusts are used to sweltering temperatures, but sometimes their desert home is just too hot to handle. Corinne Rodgers and her colleagues at Queen's University, Ontario, are keen to know more about how locusts cope when the temperature rockets. They already knew that locusts handle extreme temperatures better when they've had a heat shock (a blast of higher temperatures) beforehand, and that daylength also influences how insects respond to heat. So, they wondered, how will locusts raised under two different daylengths respond to increased

temperatures after a heat shock? To find out, the team first heat shocked locusts raised under 12 hours or 16 hours of daylight per day, then examined their ability to maintain a breathing rhythm as the temperature rose to a sizzling 45°C. 12 h locusts kept their cool: they maintained a stable breathing rhythm at higher temperatures than 16 h locusts, and when the rhythm broke down in extreme heat, 12 h locusts recovered quicker when the temperatures dropped again (p. 4690). Daylength, and heat shock, are important

in helping locusts cope when the temperature soars.

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Rodgers, C. I., Shoemaker, K. L. and Robertson, R. M. (2006). Photoperiod-induced plasticity of thermosensitivity and acquired thermotolerance in *Locusta migratoria*. *J. Exp. Biol.* **209**, 4690-4700.

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