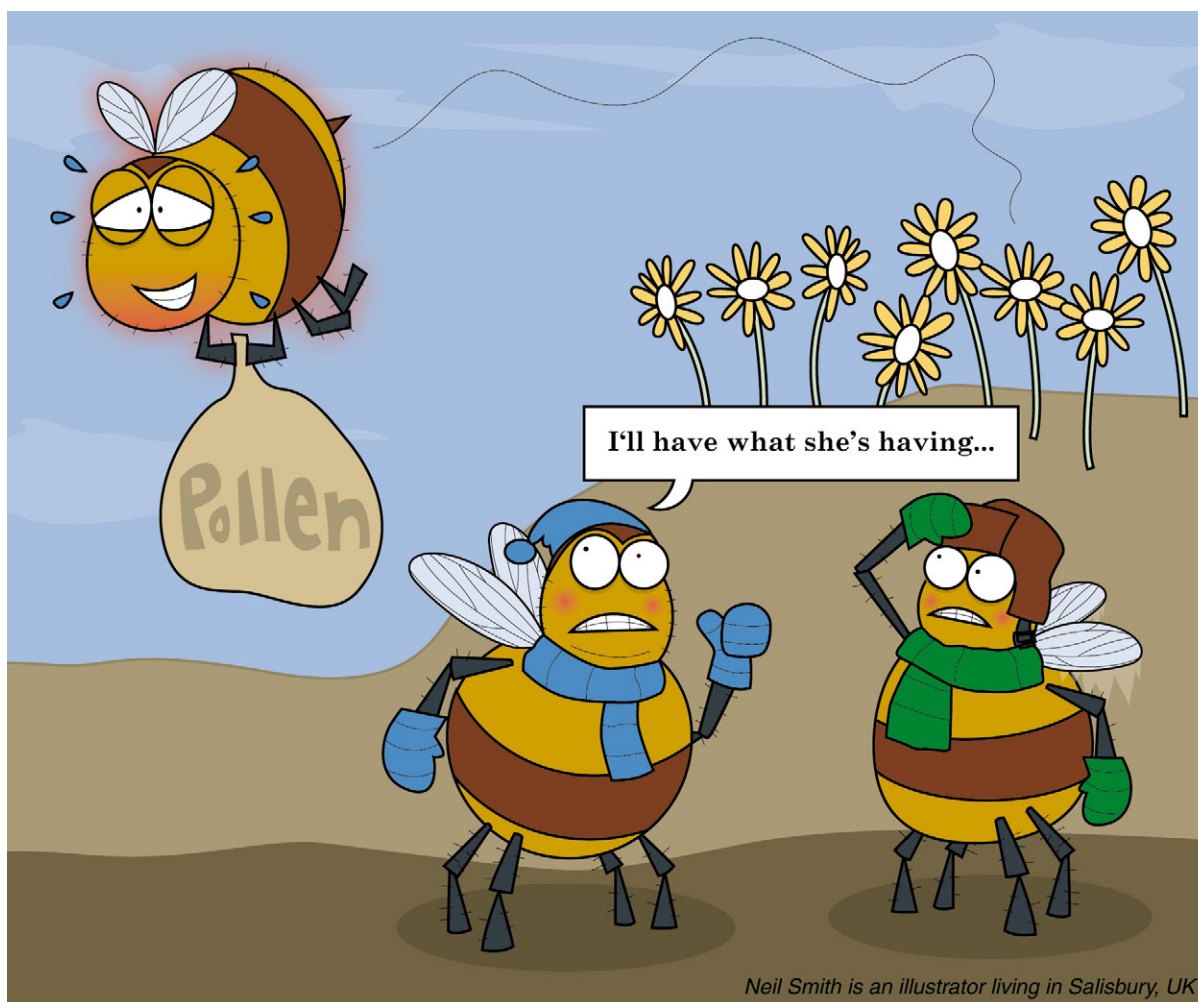


POLLEN MAKES BEES HOT



Forager bees like nothing more than a sweet supply of nectar. But bees do not live by nectar alone. One of their main sources of protein is pollen. Knowing that bees have to maintain a reasonably high thoracic temperature for their muscles to power flight, and that foragers' temperatures go up significantly as their nectar supply becomes richer, Katherine Mapalad, Daniel Leu and James Nieh wondered whether foragers' temperatures would rise depending on pollen quality (p. 2239).

Mixing good quality pollen with indigestible α cellulose, the team produced 25%, 50%, 75% and 100% pollen protein samples and offered them to a bee colony in an isolated foraging arena. Measuring foraging bees' temperatures with an infrared thermometer as they finished foraging and returned to the nest, the team found that the insects' body temperatures rose by 0.4°C with every 25% increase in pollen protein concentration. Nieh and his colleagues suspect that the insects' raised body

temperatures are beneficial for foraging flights and may help foragers to recruit more helpers when they've found a rich protein supply.

10.1242/jeb.021261

Mapalad, K. S., Leu, D. and Nieh, J. C. (2008). Bumble bees heat up for high quality pollen. *J. Exp. Biol.* **211**, 2239-2242.

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