MARK RALSTON/AFP/GETTY

humpbacks responded to the calls of the attacking killers. They add that humpbacks do not seem to benefit from helping other animals, so this may be a case of interspecies altruism.
Marine Mammal Sci. **http://doi.org/bm58 (2016)**

NEUROSCIENCE

Fruit flies care about texture

Fruit flies prefer food with certain textures, thanks to specific neurons in the brain that connect to taste sensors in the tongue.

Yali Zhang and Craig Montell at the University of California, Santa Barbara, and their colleagues gave fruit flies (*Drosophila melanogaster*) liquid solutions of varying viscosity, and solid foods of varying hardness. The flies preferred food that was less viscous and of an intermediate hardness. The authors identified a type of neuron, called md-L, that responded to mechanical stimulation of the sensory hairs on the tongue. When the team stimulated these neurons, the flies' feeding behaviour altered according to the strength of the stimulus.

The researchers pinpointed a protein, TMC, that is found in the neurons' membranes and is required for texture sensation. Mammals and other animals also express TMC proteins, suggesting that they may also have neuronal sensors for food texture.
Neuron **http://doi.org/bm8x (2016)**

CAT HOBAITER

IMMUNOLOGY

Gut microbes boost antibodies

Intestinal bacteria release metabolic by-products that support antibody-producing immune cells.

Gut microbes produce short-chain fatty acids as they digest dietary fibre. Chang Kim and his colleagues at Purdue University in West Lafayette, Indiana, treated cultured B cells with the fatty acids and found that this enhanced the expression of genes that help the cells to develop into antibody-producing factories known as plasma B cells. The treatment also increased the cells' metabolism, helping to support the energy-consuming process of making antibodies.

Mice fed a low-fibre diet were more susceptible than other animals to infection by the pathogen *Citrobacter rodentium* and had weaker immune responses. Treating the mice with short-chain fatty acids or dietary fibre increased antibody production and reversed this immune deficiency.
Cell Host Microbe **http://doi.org/bm82 (2016)**

EVOLUTION

Long trips foster tool use

Chimpanzees that travel farther in search of food are more likely to use tools than are their less-travelled counterparts.

Thibaud Gruber and his colleagues at the University of Neuchâtel in Switzerland studied wild chimpanzees (*Pan troglodytes schweinfurthii*; **pictured**) in Uganda, using six years of experimental data and seven years of observations. The researchers drilled small holes in logs and filled them with honey, which the chimps could access only using a tool such as a leaf sponge (pictured). Chimps were more likely to use tools to get honey when they had recently foraged over longer distances, compared to those that travelled less. Published data on wild chimps also revealed that communities that travel more use a larger repertoire of feeding tools.

Moving long distances may have helped to drive the development of early human technology, the authors say.
eLife **http://doi.org/bm6c (2016)**

ENVIRONMENTAL SCIENCE

Humans have a hand in wildfires

People strongly influence the likelihood of fires in forests, grasslands and other ecosystems across the United States and Canada, mostly by lowering fire risks.

People can ignite fires, but can also suppress them by altering properties of the land, for example by removing natural vegetation. To better understand the effects humans have, a team led by Marc-André Parisien of Natural Resources Canada in Edmonton used statistical models to analyse human and natural factors linked to fire probability across both countries between 1984 and 2014. They found an association between human activities and fire — the stronger the human influence, the lower the probability of fire.

Wildfires (**pictured**) are rarely purely natural, and fire managers should take this into account when considering how fire risks may shift in a warming world, the authors say.
Environ. Res. Lett. 11, **075005 (2016)**

ECOLOGY

Insecticides hurt male bees too

A class of pesticides that has been linked to declining bee populations harms the reproductive capacity of male honeybees, not just that of queens as other research has shown.

Neonicotinoid pesticides are currently banned by the European Union because of their effects on bees. Lars Straub at the University of Berne and his team exposed colonies of honeybees (*Apis mellifera*) in the field to two neonicotinoids that are commonly found in agricultural fields. The team found that in males, the chemicals reduced living sperm count by 39% and decreased the insects' lifespan.

This could negatively affect honeybee colony fitness and queen survival and health, the authors say.
Proc. R. Soc. B 283, **20160506 (2016)**

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