

BEHAVIOURAL GENETICS

Genetics of sexual harassment

A gene important in limb development that is normally suppressed after birth can cause female mice to become sexually aggressive, biting the genitals of males, when it is anomalously expressed in the brain.

Jozsef Zakany and Denis Duboule at the University of Geneva, Switzerland, deleted a tiny section of the mouse genome that includes a cluster of developmental genes called *HoxD*. The deletion resulted in the abnormal expression of one *Hox* gene in small populations of brain cells. This caused females in the sexually receptive phase of their reproductive cycle to hyperactively chase male mice, biting the males' genitals and severely mutilating them.

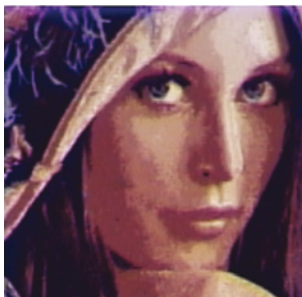
The finding could open up new approaches for investigating the molecular and cellular basis of female courtship behaviour, say the researchers.

Curr. Biol. <http://dx.doi.org/10.1016/j.cub.2012.06.067> (2012)

NANOTECHNOLOGY

Ramped up resolution

Colour images with an effective resolution of up to 100,000 dots per inch — the maximum



possible owing to the properties of visible light — could now be a reality, thanks to researchers in Singapore.

Joel Yang at the Institute of Materials Research and Engineering in Singapore and his colleagues began with a silicon wafer and created tiny posts tens of nanometres in diameter on the surface. The posts were capped with silver disks. Depending on their size and spacing, groups of posts preferentially reflected a single colour back towards the viewer. Using their system, the researchers created colour images (pictured), which could be resolved at the

diffraction limit of optical microscopes.

The posts could be used in security images and in optical filters or data storage, the team suggests.

Nature Nanotechnol. <http://dx.doi.org/10.1038/nnano.2012.128> (2012)

For a longer story on this research, see go.nature.com/vwahok

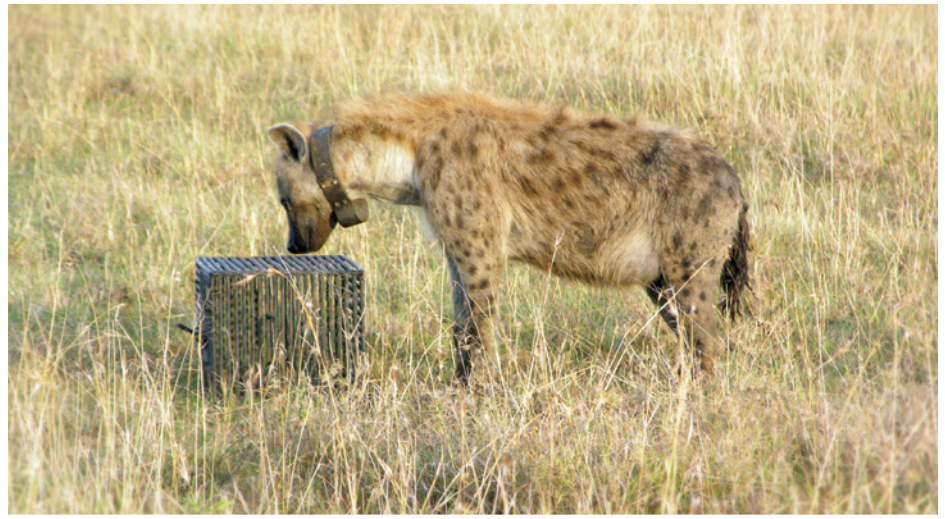
EVOLUTION

Sloth inner-ear diversity

The three-toed sloth shows surprising diversity in the structure of its semicircular

canals — part of the inner ear responsible for detecting motion. The sloths' lethargy and lack of agility might have reduced the need for sensitivity to motion, leading to relaxed selection pressure on this apparatus.

Semicircular-canal morphology is usually remarkably stable between members of the same species in placental mammals. Guillaume Billet at the University of Bonn, Germany, and his colleagues used high-resolution computed tomography to compare the semicircular canals of the three-toed sloth (*Bradypus*



ANIMAL BEHAVIOUR

Curious hyenas crack puzzles

Spotted hyenas that exhibit a wider range of exploratory behaviours are better at solving problems than those that show a smaller range — just as creativity can aid problem-solving in humans.

Sarah Benson-Amram and Kay Holekamp at Michigan State University in East Lansing devised a steel puzzle box and baited it with a slab of meat (pictured). Over the course of a year, the researchers observed how 62 spotted hyenas (*Crocuta crocuta*) from two clans in

Kenya interacted with the box. The team measured the hyenas' reluctance to touch the box — as a proxy for their fear of new things — and the number of tactical behaviours that they used to try to open it, such as biting, pushing or flipping, as well as their persistence. In both adult and juvenile hyenas, animals that showed a broader range of behaviours were more likely to succeed in opening the box.

Proc. R. Soc. B <http://dx.doi.org/10.1098/rspb.2012.1450> (2012)