# RESEARCH HIGHLIGHTS

*Selections from the scientific literature*

COGNITIVE NEUROSCIENCE

## Scenes deciphered from spaces

When a person views a scene, be it a city street or grassy hills, the brain's parahippocampal place area (PPA) processes it mainly on the basis of its spatial characteristics, not its contents.

That's the finding of Dwight Kravitz and his colleagues at the National Institute of Mental Health in Bethesda, Maryland, who used functional magnetic resonance imaging to scan the brains of volunteers as they viewed 96 scenes ranging from open, natural environments to enclosed rooms. Scenes that were spatially similar — such as those depicting either open or closed environments — elicited similar PPA responses. However, scenes with the same kind of content — for example, man-made features — did not.

Another set of volunteers categorized the scenes on the basis of spatial and non-spatial features. Their ratings of the spatial features correlated with the PPA patterns; the non-spatial ratings did not.

***J. Neurosci.*** 31, **7322–7333 (2011)**

KLINGER & LUO, CARNEGIE MUSEUM OF NATURAL HISTORY

PALAEONTOLOGY

## Stronger smell, bigger brain

Mammals may owe their large brains to the development of more acute senses, such as smell and touch, in their extinct ancestors.

Timothy Rowe at the University of Texas in Austin and his co-authors made computed tomography scans of the intact fossil skulls of two species that preceded the first mammals. Compared with those of its predecessors, the brain of *Morganucodon oehleri* — which roamed the Earth some 200 million years ago — was larger relative to the size of its body. Much of the difference is attributable to the growth of brain areas involved in sensing and processing smell and touch, as well as movement coordination.

Another mammalian ancestor from the same period, *Hadrocodium wui* (**pictured**), also showed brain growth, particularly in regions attuned to smell. The authors suggest that an improved sense of smell might have laid the neural groundwork for the ability to deal with different types of environmental information.

***Science*** 332, **955–957 (2011)**

For a longer story on this research, see go.nature.com/ngdo6o

ECOLOGY

## Parasites make their hosts hide

Many parasites modify their host's behaviour, upping the host's risk of being ingested by a predator, and thus hastening the next stage of the parasites' life cycle. But, say Lucile Dianne and her colleagues at the University of Bourgogne in Dijon, France, one parasite can also do the opposite, making its victims predator-averse.

*Pomphorhynchus laevis* worms live in the amphipod *Gammarus pulex* (**pictured**) until they reach a stage at which they can infect the fishes that consume the amphipods. At this point, the amphipods grow increasingly reckless. But the researchers found that, in an experimental set-up, *G. pulex* infected with parasites that are at an earlier developmental stage spend more time hiding than uninfected individuals. This hiding behaviour protects the creature against fish predation, allowing time for the worm parasites to prepare for their next victim.

A. HYDE/NATURE PICTURE LIBRARY

***Evolution*** **doi:10.1111/j.1558-5646.2011.01330.x (2011)**

GEOPHYSICS

## Glacial biography of Greenland

Greenland's three largest glaciers lost an enormous amount of ice during the past decade, but each has quite different prospects for long-term stability. Ian Howat at Ohio State University in Columbus and his colleagues combined remote-sensing data with meteorological modelling to estimate the amounts of ice gained or lost from the glaciers each month from 2000 to 2010.

Despite a drastic retreat between 2004 and 2006, Helheim glacier managed to gain a small amount of mass by the end of the period. The Jakobshavn glacier, however, is shedding ice ever faster. Meanwhile, at Kangerdlugssuaq, mass loss sped up but has since returned to the 2000 rate. These differences, the researchers say, show that simply extrapolating from recent changes is not a reliable way of predicting future ice loss.

***Geophys. Res. Lett.*** **doi:10.1029/2011GL047565 (2011)**