

RESEARCH HIGHLIGHTS

Selections from the scientific literature

PLANETARY SCIENCE

Recipe for liquid water on Mars

Liquid water could form temporarily on the Martian surface in places where salts and ice coexist.

A team led by Erik Fischer of the University of Michigan in Ann Arbor used a special chamber to simulate the environmental conditions of Mars. The researchers placed a thin layer of salt grains, similar to those found on Mars, in the chamber and exposed the salt to ice, simulating Mars's polar region. The ice melted within minutes.

The findings have implications for life on Mars, the authors say, noting that some bacteria can thrive in brines.

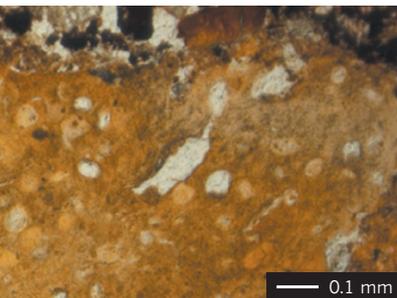
Geophys. Res. Lett. <http://doi.org/tfj> (2014)

ARCHAEOLOGY

Old faeces reveal Neanderthal diet

Traces of Neanderthal faeces — the oldest hominin waste found so far — suggest that early relatives of humans ate more plants than previously thought.

Most studies of the diet of Neanderthals, who lived 230,000–40,000 years ago, have focused on butchered bones and other signs of meat consumption, which



leave clearer evidence at archeological sites than the signs of plant consumption. Ainara Sistiaga of the University of La Laguna in Tenerife, Spain, and her team analysed sediment from the El Salt site, which dates back 50,000 years, in eastern Spain and found geochemical signals of the digested remains of both meat and plants in fossilized faeces (pictured).

The researchers used chemical ratios from studies of sewage pollution to argue that the faecal matter had come from humans and not from other animals.

PLoS ONE 9, e101045 (2014)

CONSERVATION

Indonesia outpaces Brazil in forest loss

Indonesia is clearing more forest (pictured) each year than Brazil, with 40% of this loss occurring in areas in which clearing is restricted or banned.

Belinda Margono at the University of Maryland in College Park and her colleagues analysed satellite images taken between 2000 and 2012 to quantify the loss of mature, natural Indonesian forest.

Natural forest cover decreased by some 60,000 square kilometres during the study period, owing to, for example, the establishment of commercial plantations and the transition of natural to managed forests.

The results raise questions about the effectiveness of conservation programmes in the tropical country, the authors say.

Nature Clim. Change <http://doi.org/tgk> (2014)

ECOLOGY

Rice pollen goes the distance

Rice pollen could be spreading further than previous studies have suggested, thanks to numerous insect species cross-pollinating the crop.

Rice is thought to be mainly self-pollinating. But Xue-xin Chen from Zhejiang University in Hangzhou, China, and his team conducted a two-year survey of rice fields across China and found that hundreds of species of insect visit rice

flowers and carry its pollen. These included the European honeybee *Apis mellifera*, which transported viable pollen grains more than 500 metres from their source. A three-year field study of genetically engineered rice showed that the bees boost gene flow, but that the proportion of unmodified seeds containing the transgene was less than 1%.

These results could have implications for controlling the spread of genes from genetically modified rice varieties.

J. Appl. Ecol. <http://doi.org/tfg> (2014)

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