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ANTHROPOLOGY

Kiwi DNA tells Maori history

The Maori people of New Zealand cherish their kiwi feather cloaks (**pictured**). An analysis of DNA extracted from the feathers offers clues to the garments' early history.

David Lambert at Griffith University in Nathan, Australia, and his team sequenced the DNA of kiwi feather samples from 109 cloaks held in museums in New Zealand and the United Kingdom. They compared the sequences to those from kiwis living in 26 locations on New Zealand's North Island.

Most of the feathers came from the North Island brown kiwi (*Apteryx mantelli*). However, 15% of the cloaks held feathers from populations in different areas, hinting at the existence of a feather trade. More than one-third of the garments included feathers from birds restricted to an eastern pocket of the North Island, which could be where cloak-making traditions started, the authors say.

Mol. Biol. Evol. **doi:10.1093/molbev/msr107 (2011)**

For a longer story on this research, see go.nature.com/kwyb1a

PHYSICS

Location counts in search for waves

Massive objects such as orbiting neutron stars can bend the Universe's flexible space-time fabric, generating gravitational waves. Four wave detectors are expected to be operational on Earth by 2016. However, having an additional detector in the right place could double or even quadruple the expected detection rate, says Bernard Schutz at the Albert Einstein Institute in Potsdam, Germany.

He calculated changes in detection rate, sky coverage and directional accuracy of the network when three or more detectors are placed around the world. He found that moving one of the three detectors currently planned for the United States to Australia and adding a detector in Japan (which is now being funded) would nearly double the sky coverage. In addition, it would lower the error rate in measuring the angular position of events sixfold.

Classical Quant. Grav. **doi:10.1088/0264-9381/28/12/125023 (2011)**

COMMUNITY CHOICE

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MOLECULAR BIOLOGY

Cells stressed from hunger

HIGHLY READ on www.cell.com 24 April–24 May

Cells that divide abnormally are starved of the building blocks needed to make DNA, placing stress on DNA replication, introducing mutations and destabilizing chromosomes. These could be some of the earliest events to occur in cancer, which is marked by widespread DNA damage.

Batsheva Kerem at the Hebrew University in Jerusalem, Israel, and her colleagues found that activating a cancer-promoting pathway in human cells grown in culture decreased cellular levels of nucleotides — the chemical building blocks of DNA. Adding the building blocks to the cells reduced DNA damage and decreased the frequency with which cells became cancerous. DNA damage also lessened when the researchers increased the transcription of genes involved in nucleotide biosynthesis.

Cell 145, **435–446 (2011)**

ANIMAL BEHAVIOUR

Turtle embryos seek sunny side

Just as adult turtles warm themselves in the midday Sun, turtle embryos 'bask' in their eggs by cosying up to the Sun-warmed side.

Wei-Guo Du at the Chinese Academy of Sciences in Beijing and his colleagues shone light through the freshly laid eggs of softshell turtles (*Pelodiscus sinensis*) to mark the positions of the embryos inside. The team then incubated the eggs, warming them either from above or from one side. Over a period of days, embryos made their way to the warmest part of the egg (**pictured**: heat from above, left; from the left, right), which could differ from the coolest part by almost 1 °C. If the heat source shifted, the embryos followed.

Greater exposure of the embryos to heat could modify traits such as body size and sex, and hasten hatching to reduce nest predation.

Proc. Natl Acad. Sci. USA **doi:10.1073/pnas.1102965108 (2011)**

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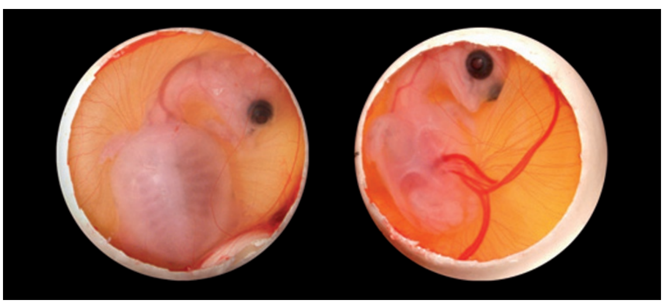

MICROBIOLOGY

Protein behind protozoan power

Humans can become infected with the protozoan *Toxoplasma gondii* by ingesting it during its spore-like stages, which are shed in cat faeces. The three main strains of *T. gondii* vary widely in terms of virulence in mice, and researchers have pinpointed a gene that may underlie this difference.

David Sibley at Washington University in St Louis, Missouri, and his co-workers generated a genetic cross between the type I strain, which is lethal to lab mice, and the milder type II. The progeny were injected into mice to assess their virulence. A genome-wide association analysis of the progeny and the parental strains revealed a locus on chromosome XII that accounted for 90% of the heightened virulence. Deleting a gene within this region, *ROP5*, in the type I strain completely blocked acute virulence.

The authors suggest that the ROP5 protein may regulate other proteins that control virulence in the parasite.

Proc. Natl Acad. Sci. USA **doi:10.1073/pnas.1015338108 (2011)**

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