RESEARCH HIGHLIGHTS

Selections from the scientific literature

HUMAN EVOLUTION

New Neanderthal extinction time

Whether modern humans and Neanderthals co-existed and interacted thousands of years ago has been the subject of much debate. A fossil analysis suggests that Neanderthals had already become extinct in the Caucasus region — thought to be one of their final refuges — by the time modern humans arose.

Ron Pinhasi at University College Dublin and his colleagues radiocarbon-dated Neanderthal fossils that they found in caves in the Caucasus region, which served as a corridor for hominids passing from Asia to Europe. The team suggests that Neanderthals vacated the northern Caucasus about 39,000 years ago and the southern Caucasus about 37,000 years ago. Modern humans arose elsewhere between 45,000 and 40,000 years ago, suggesting that the two groups did not co-exist in that part of the world.

J. Hum. Evol. 63, **770–780 (2012)**

IRISH IMAGE COLLECTION/SUPERSTOCK

ANTHROPOLOGY

Nomadic group of Irish descent

The Irish Travellers, an itinerant, socially isolated group in Ireland, are probably descended from a small group of Irish founders, rather than from the more widespread European Roma population, who have a similar lifestyle.

John Relethford of the State University of New York College at Oneonta and Michael Crawford at the University of Kansas in Lawrence compared genes from 119 of the Travellers with those of Irish, Roma, English, Hungarian and Indian populations. On the basis of population variations in 12 of the genes, the authors report that the Travellers, who make up less than 0.2% of the Irish population, are genetically more similar to Irish people than to the other groups.

The researchers went on to do a genetic comparison between the Travellers and residents of four Irish provinces. They found that although the Travellers were still distinct genetically, the differences could be accounted for by the effect of random genetic variations in the historically small group, according to a mathematical model.

Am. J. Phys. Anthropol. **http://dx.doi.org/10.1002/ajpa.22191 (2012)**

ECOLOGY

Beware the parasite's parasite

NINA FATOUROS, WWW.BUGSINTHEPICTURE.COM

Plants besieged by caterpillars release a chemical alarm that summons an army of defenders, such as parasitoid wasps whose voracious larvae devour caterpillars from within. But this plant-defence system is open to sabotage from the parasite's parasites.

Erik Poelman of Wageningen University in the Netherlands and his colleagues found that, in some cases, volatile compounds released by plants damaged by infected caterpillars also attract another set of wasps, called hyperparasitoids, that attack the cocoons of the caterpillar-eating wasp larvae. Infection with *Cotesia glomerata* wasps affects caterpillars' oral secretions, causing the plants they eat to give off a different blend of chemicals from those colonized by unaffected caterpillars. These chemicals seem to call in the hyperparasitoids. In the lab, the hyperparasitoid *Lysibia nana* (**pictured**) preferred plants munched by caterpillars infected with *C. glomerata* to those eaten by their uninfected counterparts.

PLoS Biol. 10, **e1001435 (2012)**

CLIMATE MODELLING

Climate fingerprints

The latest global climate models produce a 'fingerprint' that aligns well with actual temperature observations, and underscores the human influence on climate through the release of greenhouse gases and ozone-depleting chemicals.

Ben Santer of the Lawrence Livermore National Laboratory in Livermore, California, and his group analysed simulations from 20 climate models at the core of the Intergovernmental Panel on Climate Change's fifth assessment, and compared the results with satellite temperature records dating back to 1979. The team found general agreement with observed global-warming patterns, although the models typically overestimate warming in the lower atmosphere while underestimating cooling trends higher up, in the stratosphere.