RESEARCH HIGHLIGHTS

Pretty please

Anim. Behav. doi:10.1016/j.anbehav.2009.03.11 (2009)

Many young animals beg for food from their elders. But, eventually, the pleading stops or the charity dries up. Joah Madden, at the University of Cambridge, UK, and his team looked to find the biological triggers that put an end to begging behaviour by studying free-ranging meerkats (*Suricata suricatta*) of the Kalahari Desert in South Africa over an 18-month period.

The group analysed the begging calls of meerkat pups aged between 40 and 60 days — the peak of their begging behaviour — and compared them with the calls of the same individuals aged 100–120 days. Experimental playback to adults revealed that lower-pitched juvenile calls reaped fewer rewards than the pleading of pups.

R. WITTEK/GETTY

EVOLUTION

Carnivore claim quashed

Proc. Natl Acad. Sci. USA doi:10.1073_pnas.0901780106 (2009)

A plausible hypothesis states that socialization in mammals puts them under selective pressure to evolve larger brains.

John Finarelli of the University of Michigan in Ann Arbor and John Flynn of the American Museum of Natural History in New York compared relative brain sizes for the group Carnivora, which includes cats, dogs, bears and weasels. They looked at 289 examples, 125 of them extinct, and found that brain-size changes through evolutionary time do not correlate well with the development of sociality.

The authors suggest that the 'social brain hypothesis' falls apart when looking at carnivore groups, extinct and otherwise, beyond modern canids (wolves, jackals, foxes and the like).

ASTRONOMY

A big head start

Astrophys. J. **697,** 1493–1511 (2009)

Many astronomers have thought that most of the large, mature galaxies in the Universe took a long time to get that way, as smaller galaxies burst onto the scene and merged into larger ones over billions of years. But Daniel Stark of the University of Cambridge, UK, and his colleagues have found that the early Universe may have been a more active galactic crucible.

Using Hubble Space Telescope data, the researchers identified more than 3,000 galaxies that formed up to about 12 billion years ago, when the Universe was only 1.7 billion years old. Many of these galaxies were already big, suggesting that these earliest epochs of the Universe were very busy times, and probably responsible for the formation of a significant component of the Universe's mature, massive galaxies.

PALAEONTOLOGY

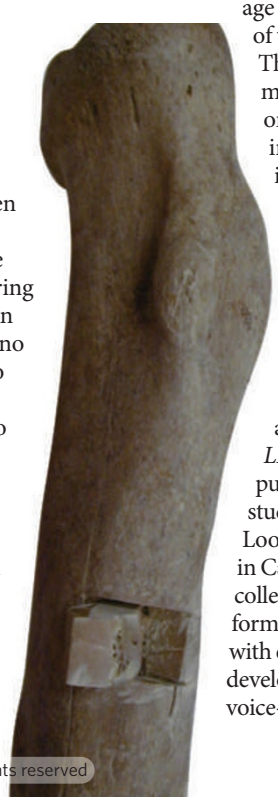
Bone study bugbear

Proc R. Soc. B doi:10.1098/rspb.2009.0563 (2009)

Palaeontologists may need to find a better way to predict the integrity of DNA in ancient remains.

Processes to extract DNA from fossils can cause considerable specimen damage (as pictured, right). To avoid needless destruction, researchers have tended to screen samples first, measuring the extent of aspartic acid racemization — the chemical conversion of the amino acid to a different form over time — to estimate protein integrity. The belief was that if proteins remained intact, so too did DNA. Now Matthew Collins at the University of York, UK, and his colleagues reveal that this is not the case.

They studied 91 specimens of tooth and bone, evaluating how protein analysis compared with rates of DNA amplification success. Racemization offered little information on the quality of the DNA in a fossil.



B. SHAPIRO & A. COOPER

GENETICS

Setting the biological clock

Nature Genet. **41,** 724–728; 734–738; 729–733 (2009)

A series of studies has tracked possible genetic influences on when a woman's reproductive lifespan begins and ends.

Chunyan He of the Harvard School of Public Health and her colleagues scanned the genomes of more than 17,000 women, looking for genetic sequences associated with age at menarche — the start of the first menstrual cycle. They found a series of genetic markers associated with the onset of sexual maturity, including several clustered in and near a gene called *LIN28B*, and additional markers associated with the timing of menopause.

Another project, by Patrick Sulem and Kari Stefansson of deCODE Genetics in Reykjavik and their collaborators, also found a link between *LIN28B* and the onset of puberty. Meanwhile, a third study from Ken Ong and Ruth Loos of Addenbrooke's Hospital in Cambridge, UK, and their colleagues reports a particular form of the gene that is associated with earlier menarche and breast development in girls, and earlier voice-breaking in boys.